

# The Mining Journal

## AILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

o. 1663.—VOL. XXXVII.

London, Saturday, July 6, 1867.

STAMPED ....SIXPENCE.  
UNSTAMPED..FIVEPENCE

JAMES CROFTS, STOCK AND SHAREBROKER,  
NO. 1, FINCH LANE, CORNHILL.  
(Established 24 years.)  
W. WALES.—Mr. CROFTS' advice last week was "to BUY," price then  
To-day price 67s. 6d. All the ends reported as looking better, but  
the cause of the sudden improvement in the price of shares is that the  
He is reported not far off in the 50 fm. level cross-cut, and its cutting  
vital question to the value of the mine, not represented by a few shillings.  
ADVICE repeated—Do not SELL, but BUY.  
CAPITALISTS may hear of an investment to pay from ONE HUNDRED TO  
AND FIFTY per cent, income by applying to Mr. CROFTS. Actual  
cost realised amount to the latter percentage.  
Bankers: National Bank of Scotland, Finch-lane.

WILLIAM LANE, 44, THREADNEEDLE STREET,  
LONDON, E.C., STOCK AND SHARE DEALER (Established Thirty  
years FOR SALE the following SHARES—  
15 East Lovell, £7 1/2.  
20 East Laxey.  
50 East Bottile Hill, 3s 5d.  
100 Frontino Gold, 10s 3d.  
60 Frank Mills, 22s.  
15 Great Laxey, £18.  
10 Gt. Wh. Vor, £17 1/2.  
2 Herodstooth, £36.  
15 Wheal Grenville, £5.  
50 Mineral Rights, 9s. 6d.  
50 Wheal Grenville, £5.  
ALL BUSINESS in Wheal Grenville, Bryn Gwilog, Rossa Grande, Bottile  
frontino, and Frontino and Bolivia, either for cash or fortnightly  
settlements, and Frontino and Bolivia, either for cash or fortnightly  
settlements.

DE TO INVESTORS.—MR. LELEAN'S STOCK, SHARE  
AND FINANCE REGISTER for July, contains the twelfth of a series  
of issues on Investments, comprising the average dividends and rate of interest  
on the market price of shares in every description of company, as well  
as Colonial and Foreign Stocks; and such information as is necessary,  
intending investors. 6d. per copy, or 5s. annually, post free.  
Issued by Mr. BAKER LELEAN, at his office, 11, Royal Exchange, London.

R. WILLIAM WARD,  
STOCK AND SHAREDEALER,  
No. 29, THREADNEEDLE STREET, LONDON, E.C.

R. JOHN BATTERS, STOCK AND MINING  
SHAREBROKER, 13, THROGMORTON STREET, LONDON, E.C.

R. WILLIAM SEWARD, STOCK AND SHAREDEALER,  
19, THROGMORTON STREET, LONDON, E.C.

ESSRS. WARD AND JACKMAN  
STOCK AND SHAREDEALERS,  
CUSHION COURT, OLD BROAD STREET, CITY, E.C.

Closing Prices, Friday Evening, July 5.

Buyers. Sellers.

Brazilian	...pm. £ 3s - £ 5s	Great Retallack	£ 4 1/2 - £ 5 1/2
ton Moor	6s - 7	Great Vor	17 - 18
rd.	5 1/2 - 5 1/2	North Retallack	4 1/2 - 4 1/2
ales	8 - 8 1/2	North Croft	3 1/2 - 3 1/2
edro	1 - 1 1/2	Prince of Wales	6s - 6s 1/2
Caradon	3 1/2 - 4	South Frances	35 - 37 1/2
Lovell.	5 1/2 - 5 1/2	West Chiverton	6s - 6s
Russell	2 - 2 1/2	West Seton	140 - 150
Ino	9s - 10s	Wheat Seton	110 - 115
Laxey	17 1/2 - 18 1/2	Wheat Mary Ann	13 1/2 - 14 1/2
North Downs	3 1/2 - 3 1/2	Wheat Basset	6s - 70
ers. WARD and JACKMAN refer to their remarks on p. 444.		West Caradon	call pd. 8 - 10
es. WARD and JACKMAN are DEALERS in every description of mining ties at close market prices for immediate settlement or the fortnightly nt.			
7, 1867. Bankers: London and Westminster, Lothbury.			

R. THOMAS THOMPSON, MINING OFFICES  
12, OLD JEWRY CHAMBERS, LONDON, E.C.

ESSRS. WILSON, WARD, AND CO., STOCK AND  
SHAREDEALERS,  
16, UNION COURT, OLD BROAD STREET, LONDON, E.C.

Can recommend two good mines for investment.

R. JAMES HUME, 74, OLD BROAD STREET,  
MEMBER OF THE MINING EXCHANGE, LONDON.

transacts buying and selling orders at nett prices, equivalent to 1/4 per cent.

Closing prices.

Brazilian	£ 1 - £ 1 1/2	South Condurrow	£ 3 1/2 - £ 3 1/2
edro.....(prem.)	3 1/2 - 3 1/2	Wheat Uny	1 - 1 1/2
ales	5 - 5 1/2	Clifford	8 - 8 1/2
ton Moor	5 1/2 - 5 1/2	Crebior	3 1/2 - 3 1/2
al Rights	3 1/2 - 3 1/2	Prince of Wales	3 1/2 - 3 1/2

NG OF WALES.—Distant holders, equally with those in London, may re-

through R. HUME's agency, the fortnightly consideration (equal to a di-

0), without disposing of their shares.

Bankers: The London Joint Stock Bank.

ORGE RICE, STOCK AND SHAREDEALER, 78, OLD  
BROAD STREET, LONDON, E.C. (Member of the Mining Exchange,  
ear's experience), TRANSACTS BUSINESS in MINING SHARES, at  
prices.

ICIAL BUSINESS in Chiverton Moor, East Lovell, Great Vor, North Croft

Chiverton, and Prince of Wales.

Money advanced on mining shares.

5, 1867. Bankers: Bank of England.

R. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,  
BISHOPSGATE STREET, LONDON, E.C. (Established 12 years), has  
SALE the FOLLOWING SHARES, at nett prices:

ay Bertha, 2s.	30 East Seton, 6s. ed.	50 E. Rosewarne, 7s. 3d.
ton Moor, £5 1/2	10 East Russell, £3 1/2.	5 Gt. Wh. Vor, £17 1/2.
at Bassett, 2s 2 1/2.	25 West Maria, 16s. 6d.	2 South Frances, 37s.
ark Valley, 4s 18 1/2	15 E. Carn Brea, £2 28 9.	30 Grenville, 24s.
Chiverton, 2s 6 1/2.	20 West Bassett, 19s.	1 Wheal Seton, £11 1/2.
h. Mary Ann, 12 1/2.	50 Prince of Wales, 6s. 6.	10 North Croft, £18 9.
ldebook Fells, 10s.	20 Don Pedro, £3 18 9 p.m.	10 Gt. No. Downs, 23 1/2.
heal Agar, 3s.	50 Frontino, 9s. 9d.	30 Crebior, 10s. 6d.
rovidence, 2s 28 1/2.	25 North Treskerby, 29s.	30 Crebior, 10s. 6d.
ontales, 20s prem.	50 Redmoor, 3s.	50 E. Bottile Hill, 4s. 6d.
st Caradon, £5 1/2.	1 East Lovell, £7 1/2.	25 W. St. Ives, 10s.
st Okef, 10s. 6d.	5 Okel Tor, 16s. 3d.	5 Clifford, £5 1/2.
yn Gwilog, 27s. 6d.	15 East Grenville, £2 2 1/2.	

R. WILLIAM MICHELL, STOCK AND SHAREDEALER,  
either for cash or the fortnightly settling, has a limited number of  
ES FOR SALE in two or three PROGRESSIVE MINES, where there is  
chance of realising a large profit in a short time, and with a small outlay,  
is the time to BUY.

NG OF WALES.—"A. B. C."—To have already 18 men stopping the back of  
fm. level, with such a small section of ground laid open, is forcing the re-  
to an extreme that cannot last. With all this, the present sampling will  
not last in quantity, and fall far short in quality, already showing a  
off. That they have driven through a nice bunch of ore no one can deny,  
old is often times bought too dear.

LLIAN MICHELL can now advise his friends on a personal inspection of  
of Wales, and parties speculating in those shares would do well to con-  
in without delay.

ES PURCHASE AND FINANCE COMPANY (Limited).—The remaining few  
to W.M. MICHELL, 42, Cornhill, London, E.C., July 5, 1867.

R. GEORGE BUDGE, STOCK AND SHAREDEALER,  
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established  
1860), has FOR SALE at nett prices:—50 Anglo-Brazilian; 40 Don Pedro,  
1 s. 6d. prem.; 20 United Mexican, £5 1/2; 25 Pestarena; 100 Rossa Grande;  
on Great Consols, £4 1/2; 10 North Retallack, £4 1/2; 10 North Treskerby,  
2 West Chiverton, £4 1/2; 10 Rose and Chiverton United, 5 Gt. Seton;  
st Prince of Wales, 14s. 2d.; 20 Frank Mills, 21s.; 1 Wheal Seton, £11 1/2;  
2 East Bassett, £2 2 1/2; 100 West St. Ives, 10s.; 20 West Kirby, 18s. 9d.;  
100 Gt. Wh. Vor, 16s. 6d.; 20 Frank Mills, 21s.; 1 Wheal Seton, £11 1/2;  
100 Rossa Grande, 24s.; 10 Great Retallack, £5 1/2; 50 Okel Tor; 20 Gwinton,  
100 East Rosewarne, 8s.; 100 Gwydir Park, 2s. 6d.; 50 Cudla, 19s.; 50  
East Callington; 30 Great South Tilgus, 11s.; 100 Port Dore; 20 Dale; 20  
South Callington; 30 Great South Tilgus, 11s.; 100 Tolkarn, 4s.; 2 Minera; 70  
Tin, 2s.; 50 Yudananutana, 27s. 6d.; 50 Pendeen; 5 Silver Brook.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND  
SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES," of  
Friday, July 5, No. 421, Vol. IX., price 6d. each copy, forwarded on applica-  
tion, contains information on the following mines:

West Caradon. Wheal Mary Ann. West Great Work.  
Great Wheal Vor. Wheal Trelawny. Prospect United.  
North Wheal Crofty. Wheal Jane. South Fowey Consols.  
West Wheal Kitty. Wheal Chiverton. Brittany Silver-Lead.  
Prince of Wales. East Wheal Lovell. Trumpet Consols.  
South Caradon.

Remarks on the Tin Trade. Rise in the Price of English Tin.

N.B.—Mr. PETER WATSON returned from Cornwall yesterday.

PETER WATSON, STOCK and Sharedealer, 79, Old Broad-street, London, E.C.

STOCK AND SHAREDEALER.—MR. PETER WATSON,  
ENGLISH AND FOREIGN STOCK, SHARE, and MINING OFFICES, 79,  
OLD BROAD STREET, LONDON, E.C.

Railway, Joint-Stock Banks, Dock, Insurance, Canal, Mining, Steam-ship, &c.,  
and every other description of shares bought and sold at nett prices.

TELEGRAPHIC MESSAGES TO BUY OR SELL Railway, Bank, Mine, and  
other shares and stocks, punctually attended to, at nett prices for cash, or for  
fortnightly settlements, with advice as to purchases or sales.

Twenty-two years' experience.

(Two in Cornwall and Twenty in London.)

Bankers: The Alliance Bank, and the Union Bank of London.

From the close proximity of his offices to the Stock Exchange, as well as the  
West Chiverton. Wheal Agar. West Ives.  
East Rosewarne. Chiverton Moor. Wheal Seton.  
Wheat Seton. Chontales. South Callington.  
Rose and Chiverton. North Crofty. West Prince of Wales.  
West Wheal Kitty. Prince of Wales. Great South Chiverton.

Established Ten Years. Member of the Mining Exchange.

Bankers: City Bank.

WEST ST. IVES.—Mr. J. B. REYNOLDS is a BUYER of any

number of shares in this mine, as well as a SELLER. Communications

will receive prompt attention.

70 and 71, Bishopsgate-street Within, London, E.C., July 5, 1867.

Now ready,

M.R. J. B. REYNOLDS' CIRCULAR for JUNE and JULY is

NOW READY, containing valuable information respecting Railways,  
Banks, Mines, Insurance and Miscellaneous Companies, and will be forwarded

gratis on application to Mr. J. B. REYNOLDS, 70 and 71, Bishopsgate-street,

London, E.C.

M.R. R. EMERSON, 28, GREAT WINCHESTER STREET,  
LONDON, E.C., has the following SHARES FOR SALE:—50 Bottlege

Conns, 8s.; 15 Gothic, £2 1/2; 100 Gwydir Park, 2s.; 20 Frontino; 50 East Bottige

Hill, 4s.; 15 North Retallack; 20 West Wheal Kitty, 18s.; 100 Rossa Grande,

11s.; 100 West St. Ives, 10s. 3d.; 50 Bottige Hill, 4s. 6d.; 20 Rose and Chiverton

United. Advice given on the sale and purchase of shares.

Eighteen years experience in Cornwall and Thirteen in London.

M. J. B. REYNOLDS, STOCK AND SHAREDEALER,  
31, THREADNEEDLE STREET, LONDON, E.C.

JOHN RISLEY, STOCK AND SHAREBROKER  
(SWORN BROKER).

48, THREADNEEDLE STREET, LONDON, E.C.

Bankers: London and Westminster, Lothbury.

M. R. D. STICKLAND, M.E., having had upwards of 40 years'

mining experience in Cornwall, several years of which he has had the  
entire management of mines therein, enables him to GIVE GOOD ADVICE

thereon.

Mining, Railway, and other Shares bought, sold, or exchanged. Shares for

sale in mines and quarries that will pay 15 to 20 per cent. per annum.

Offices, 5, Finsbury-street, London, E.C.

M. LEDWARD, CHESTER, has FOR SALE a few SHARES

in the TRELOGAN and GLEN ALUN LEAD MINES, at a small

discount. An opportunity of acquiring shares in

## Original Correspondence.

## THE RELATIVE VALUE OF GAS COAL.

SIR.—The publication of the analysis of the Rochsoles gas coal in the *Mining Journal* of June 1, and the statement that its gas-producing capabilities were greater than either the Lesmahagow, or even than the Arniston coal, has put the Nitshill and Lesmahagow Company on the alert to save the reputation of their produce, yet it appears that the best evidence they can adduce is an old report of 1848, from which many of the most important items for enabling an opinion to be formed as to the value of a coal for the manufacture of gas has been altogether omitted. It is stated that 11,020 cubic feet of gas is produced from each ton of Lesmahagow coal, whilst the Wigan Cannel coal yields only 9500 cubic feet per ton; but the relative quality of the gas is carefully kept out of view. The Wigan may have been 20-candle gas (or even, like the Rochsoles, 26½-candle gas), whilst the Lesmahagow was but 10-candle gas, in which case the difference would have been more than compensated for, and the Lesmahagow coal would have possessed no advantage, except so far as it enabled a gas company to charge its customers a larger amount of money for a given amount of light. In comparing the relative value of the Wigan Cannel and Lesmahagow gas coal, the representatives of the latter coal state that the difference is as 2 to 7, the higher figures representing the Lesmahagow coal. But if the Cannel coal produces 9500 feet, each foot of which burns 57 minutes = 541,500 minutes for the whole, whilst the Lesmahagow coal produces 11,020 feet, each of which burns 65 minutes = 716,300 minutes for the whole, it will be apparent, so far as concerns the gas consumer (even assuming the Lesmahagow coal to give as much light as Cannel gas), if the Wigan coal be worth 6s. per ton the Lesmahagow will only be worth 8s., instead of 21s. per ton, as the representatives of the latter coal state.

Particular importance is attached to "the quality of the light" the gas from Lesmahagow coal yields, although the quantity of light is of far greater moment. The Lesmahagow coal may yield a gas giving a nice soft light, which will not dazzle the eyes; but, surely, low illuminating power is not great recommendation, and until the quality of the gas rather than the quality of the light is stated, but little can be confidently stated in favour of Lesmahagow coal. The subjoined will show the additional particulars wanted for that coal; those relating to Rochsoles have been already given:—

	Rochsoles.	Lesmahagow.
Gas per ton of coal.	11,902 c. ft.	11,020 c. ft.
Coke from ditto	1182 lbs.	1091 lbs.
Specific gravity of gas.	.542	.642
Value of 1 ft. of gas in sperm	636 grs.	—
Illuminating power of 5 cubic feet of gas.	26½ candles	—
Weight of gas per ton.	494 lbs.	463 lbs.

It would be desirable, if possible, to have the Lesmahagow analyses of some date more recent than 1848, which, being the year of revolutions, may have been the last in which that aristocratic quality of coal was found in those pits. That the Lesmahagow coal is of excellent quality I fully admit, but that admission does not at all convince me that it is better than the Rochsoles, or that either is better than the best Wigan Cannel, unless particular samples be taken for making the analyses. The Rochsoles seam is only  $\frac{1}{2}$  in. thick, and has three qualities of coal in that small thickness, and there is nothing to show that the Lesmahagow analyses have not been made with selected specimens from an equally irregular seam. With those Scotch coals, the whole seam, and at least 20 tons of it, should be tested, in order to get anything like a reliable average. LANCASTRENSIS.

July 1.

## THE WORKING OF FIERY COLLIERIES WITHOUT THE USE OF SAFETY-LAMPS.

SIR.—It is now more than twenty centuries since Euclid, of Alexandria, collected into a well-arranged system the scattered principles and truths of geometry. In no age, nor in any nation, since he gave to the world his work has there ever existed a human being who could prove those principles to be false. And why? Because they are stamped in the eternal and everlasting laws of the universe, and neither time nor space can annihilate or supersede them. But there are very few things which mankind has to deal with that do not require altering, amending, reconstructing, &c., as time and circumstance change. We have, therefore, to be continually reviewing, improving, and trying to better adapt and design our words and works to suit the altered circumstances in which we may be placed.

The mental, like the physical, nature of man would seem to be subject to the law of attraction; for when when we once get fixed in a certain state we are, either from ignorance or interest, loth to remove. Sometimes when a new idea or thing is brought before us it presents itself in two phases; while the one will confer upon us a certain proportion of good, the other will confer upon us a like proportion of evil. We have, then, to call before the mind's eye, as it were, the circumstances connected with both parts of the subject, and see, if we can, whether the provable good will balance or outweigh the probable evil. But it sometimes happens that we cannot arrive at correct results from a train of mental reasoning, because we cannot bring forward all the causes and effects, and arrange them in proper order before our mental vision. And it is only after many trials, extending over a long time, and looking at them from different stand points, that we are able to come to anything like a definite conclusion upon the subject.

It is now more than half-a-century since the Safety-Lamp was given to the world, and it yet forms a subject of controversy as to whether there is most good or most evil arising from its use. For some years past it has been a settled point in my mind that by strict and exclusive use of the Stephenson lamp in fiery mines the balance of good is greatly in excess of the evil arising therefrom. Of all the accounts that have come under my notice I can only find one where there has been an explosion when a strict and exclusive use of the Stephenson lamp was in full operation, and that explosion was at the Oaks Colliery, Barnsley, the cause of which is yet hidden, and whether it will ever be correctly known or not is a question which time only can solve. There have been explosions where the Davy lamp has been exclusively used, but the Davy lamp, in its most perfect state, has been proved not to be safe under certain conditions.

A short time since there appeared an article in the *Mining Journal*, stating that at a certain place there was being worked a fiery mine, without the use of safety-lamps. I wrote a short letter, confessing my inability to see any other plan of working fiery mines safely except by a strict and exclusive use of safety-lamps. I have waited to see if anyone could or would throw any light upon the subject, but no one has yet done so. There was a letter in the *Journal* of June 8, from "Investigo," who states that he would not on any account assert that a fiery colliery can be worked with naked lights, thereby virtually admitting the principles I hold to be true: but there is a point or two in his communication which I should like to notice. He says he regards the blower argument as one very much puffed. Now, I do not think it is courteous language to say that a thing is puffed unless we know from actual observation that it is so, for there are so many things which we have at one period of our lives thought to be false that we have afterwards found to be true, and others which we have thought to be true that have turned out to be false, that it behoves us to be very cautious in the use of words. Has "Investigo" proved from practical observation and experience that what he says about the puffing of the blower argument is true? If so, where are the places he refers to? Please give names and dates.

I well remember when the first large outburst of gas at the Strafford Colliery, at Barnsley, occurred. I wrote a short article, simply stating the facts that had taken place, which had been witnessed by seven men besides myself. An individual, from a certain motive, wrote a letter to the papers to try and make it appear that what I had written was not true, although this person had never been in the pit in his life, and, from what I could learn, he had never seen an outburst of gas in any other mine. I only mention this to show in what an off-hand manner some people speak of things they have not seen, or do not understand. Up to the present time outbursts of gas are not of universal occurrence, though I believe some have happened which have not been recorded. There are many mining districts in Great Britain where such a thing as an outburst of gas never has been known; and the mining engineers and colliery managers of

those districts are very hard to convince of such things occurring in such vast quantities. Some years since a man of large experience in mining denied the possibility of these outbursts, in a public assembly, while debating on these matters. I say again, we should be very careful before we either deny or affirm upon any point.

"Investigo" seems to think that if an outburst of gas occurs in a pit worked with naked lights, even if the gas became ignited, the result would not be very serious. Let me tell him that if the officials of the Strafford Main Colliery had entertained the idea that nothing serious would happen from working with naked lights, and if they had attempted to carry that idea into practice, I have no hesitation in saying that at that pit alone we should have had to count the loss of lives by hundreds and the loss of property by thousands. However, through the pit being worked with the strict and exclusive use of safety-lamps, there has not up to the present time been a single life lost through these outbursts of gas, nor a penny's worth of property destroyed. Has "Investigo" read the report of Mr. Lionel Brough concerning the outburst that sent off upwards of 100,000 cubic feet of gas in ten minutes, and forced down 30 tons of coal to liberate itself? If so, will he tell us how he would have used naked lights in this place without anything serious happening? From what I learn, if there had been naked lights used the loss of life would have been greater than it was at the Oaks.

I have seen several outbursts of gas, and up to the present time I have not discovered any method, nor have I heard that anyone else has, by which we can tell where we are about to liberate these reservoirs of gas. I have seen places that were quite free and clear filled with gas in two minutes. Then, I say again, I see no plan other than that of always being prepared for them by the exclusive and strict use of safety-lamps.

In conclusion, I would say to those who have the management of mines—Ventilate your pits upon the best possible plan, carry into your works the greatest possible amount of fresh air, remove all gas you can with all possible haste, and use lamps as an additional safeguard.

GEORGE ADCROFT.

## UTILISATION OF SMALL COAL.

SIR.—With reference to the letter of your correspondent, "Coal," in last week's *Journal*, it is scarcely necessary for me to say that it will always afford me much satisfaction to give any practical information as to the value of and mode of working my inventions. The subject is, of course, of great interest to me personally, but I do not think that I am overstating its character when I say that it is a matter of national importance, for I consider that, with the established fact that nearly 30 millions of tons of coal are annually wasted in this country, it becomes a question which may materially affect the welfare of posterity.

My processes as patented are extremely simple, the cost of the substances used to agglomerate the coal amounting to 1s. per ton. The fuel can be manufactured either by hand or by machinery, and in many cases is superior in quality to the coal which has been employed. My patents are being worked by the London Patent Coal Company (Limited), whose office is at 26, Martin's-lane, Cannon-street, E.C., and any information which may be desired can be obtained by addressing the managing director or myself upon the subject.

Dorset Lodge, Northfleet, Kent, July 2. DAVID BARKER.

## PRICE OF TIN.

SIR.—A tin-producer should have more patience than Job. About seven years ago the writer of this was paid 87s. per ton for his ores, but can only now obtain, according to the present standard, about 55s., including the liberal advance of 2s. on June 17. We are ashamed to subtract the one from the other, the disparity is so great, and looks so black against the smelter—or monopolist, if the term is more acceptable. This is the more astounding to people of common sense and honest feeling, when we remember that the surplus stock is not greater at this moment than when the higher price was paid, from which we fairly infer it should fetch about the same price. Who can explain this? Last year the produce of tin at home and abroad was about 22,000 tons of metal greater than in any former one. It is very cheering to know that, although that year was a time of panic and disaster in the commercial world, the whole quantity was worked up, and a portion of the stock on hand as well. We are of opinion that the supply of tin from all sources this year will not exceed 18,000 tons; whilst, on the other hand, the consumption would go on to increase, but this cannot possibly occur to any great extent, as the supply and stock both are scarcely sufficient to meet the wants of the world. Unless the price of tin is soon raised to something like its fair value, I should be glad to see the producers combine to smelt their own ores. Let there be a capital of two millions raised, and let the adventurers in every tin mine be offered an interest in the smelting-works proportionate to their interest in the mines, and I rather think the concern would work. I should like to have a stake in it, and a hand in getting out the prospectus. The manufacture of tin-plates might then, also, be carried on to advantage as well. Rather than go on as we do now under the present crushing system, I should be glad to see every mine in Cornwall "knocked." TIN MINER.

## THE PROGRESS OF MINING—AS A SCIENCE, AND SOURCE OF COMMERCIAL WEALTH.—No. IV.

SIR.—The glimpses afforded us of the new mining fields, if we had not the evidences of the alternating character of the lodes in Cornwall—formations of tin succeeding formations of copper at great depths—establish sufficient ground for the conclusion that very little has yet been done in extracting the metals from the crust of the earth, in comparison with what remains to be done. The wonders exhibited by the produce of gold and silver in that part of the Andees now being crossed by the Great Atlantic and Pacific Railway—that railway now being so rapidly constructed that new cities of several thousands of inhabitants are springing up in its course like mushrooms, within a space formerly deemed sufficient scarcely to erect a decent dwelling. The yield of these lodes in the Sierra Nevada, in comparison with anything we have experienced of mining before, is perfectly astounding. When the back of a good silver lode is struck, cities of 10,000 to 15,000 inhabitants are established in five or six years; and from the mere efflorescence of the veins—for it is quite clear that no deep mining can yet be established in these new regions—the gold and silver is extracted at such a rate, that the United States calculate (and there is no reason to doubt the estimates) that they will obtain in the present year the precious metals to the extent of 60,000,000 sterling, or in sufficient quantities to pay the taxes of that great country, just emerging from a gigantic war, with all its concomitant expenses, in bullion.

These countries, that realise all the dreams of our ancestors as to El Dorado, or the land of gold, are situate nearly on the highest crests of those famous mountains that run through America from north to south for a distance of 14,000 miles, rising up and forming immense plateaus, like Mexico, 7000 to 8000 feet above the level of the sea, and in parts reaching 21,400 feet of altitude. In those mountains I have myself seen well-defined lodes of copper, ranging at from 20 to 40 per cent. of metal, and averaging the great width of 90 feet from wall to wall in solid ore, and almost every point that has been touched or tried in this grand chain of mountains, whether in Peru, Chili, Mexico, California, or British Columbia, the result has been unexampled riches.

So gigantic are the strides of commerce, and the efforts of mankind in making preparations for reaching and dealing with these districts, that the great railway from the Atlantic Ocean westward will be opened into them by Sept. 1 next; while the road from San Francisco eastward, to meet the railway forming westward, has already reached the mines of precious metal on the western slopes of those mountains. At present we can only dream of the results that will arise when all these gold and silver lodes are worked deeply and systematically, for at present all the precious metals coming from the districts of Nevada, Idaho, Colorado, &c., are merely from shallow diggings and small adits on the outcrops of the lodes. Very few of the shafts have yet reached the depth of 60 fms.; whilst in the congeners of these veins in Mexico, the mining of which, beginning two centuries ago, has reached to the depth of 400 fms. from the surface, the lodes proving rich throughout. It is quite impossible to imagine the changes that will be wrought in the commerce and affairs of the

world when these immense resources of gold and silver are vigorously, extensively, and systematically developed. It is interesting to notice that these great sources of the world's wealth are generally established in those parts of our planet that have been raised to the highest altitude with reference to the level of the sea, as if their true locality, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying the earth, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying

to the prospect of returns—“It appears we have good reserves from this lode, and that in eight years to come, independently of our surface tin deposit;” of which deposit the local agent states, in the same report—“On the large deposit we have sunk five shafts, and driven 150 fms., opening up the ground that will pay well for working.” I quote now from the second annual report by Mr. W. H. Wilcock, managing director, in reference to the same deposit—“With an admissible standard for tin, it would yield very well; but the development of the deposit will pay much better.” Thus, after twelve months, the “great and inextinguishable” deposit appears to become a thing of no practical advantage. Again, in the latter report, dated October, 1866, there is a remarkable absence of detail as to the amount of work executed during the preceding twelve months, yet the expenses at the mine come to £3000, nearly, exclusive of general expenses, travelling, salaries, and directors’ fees, as against 1712L 4s. 3d. for the preceding year, in which so much had been accomplished. In the same report, October, 1866, Capt. Jennings writes—“I hope to have the engine-shaft down 30 fms. in four weeks, and in a month subsequently, for certain, large and regular returns of tin will be made.” The 30 fm. level was not reached till May, 1867. Captain Jennings reported, under date June 27—“A fortnight since we were obliged to stop our engine, and get a larger boiler, the smaller one being unsuitable, and I hope in two months to have 9 or 10 tons of tin.” I ask the directors, for their own credit, as well as the satisfaction of the shareholders, to have the property inspected without delay, and reported on by a competent authority, not locally interested, giving an approximate estimate of the value of the work done, and to show how far the uncalled capital of 5000l. could be made available for the successful development of the property.

A SHAREHOLDER.

FRONTINO AND BOLIVIA GOLD MINING COMPANY.  
Sir.—In reply to the letter on the extraordinary meeting of the shareholders, in the above company, inserted in last week’s Journal, I never write anonymously, or answer anonymous communications.

JOSIAH HARRIS.

#### THE PARIS EXHIBITION—NO. X.

[FROM OUR OWN CORRESPONDENT.]

If, upon entering at the Ecole Militaire side of the building, we pass to the left of the rue de Belgique, and through that portion of the mineralogical gallery devoted to Prussia, the North German States, &c., we shall quickly find ourselves in the rue d’Autriche, and in the midst of a good collection intended to give an idea of the MINERAL AND METALLURGICAL RESOURCES OF AUSTRIA. Although the display is less brilliant than that of Prussia, and certainly unequal to the Austrian collection at London, in 1862, there is quite enough to prove that mining in Austria is by no means unworthy of consideration. Curious ores are produced in large quantities in Siebenbürgen and Hungary; silver ore, mostly in the form of silver-lead, in Hungary and Bohemia; quicksilver ore in Carniola; tin ore in Bohemia; copper ore in Hungary; zinc and sulphur ore in the Cracow district; antimony and nickel ore in Hungary; graphite in Bohemia, Moravia, and Lower Austria; petroleum in Galicia; and asphalt in Dalmatia and the Tyrol, nearly the whole of these ores being actually worked. Of still greater importance amongst the mineral riches of Austria are the enormous deposits of valuable iron ores of Styria, Carinthia, Hungary, and Siebenbürgen; the stone coal deposits of Bohemia, Moravia and Silesia, the Cracow district, and in Hungary; the extensive beds of brown coal in Bohemia, Moravia, Styria, Hungary, Silesia, Upper and Lower Austria, and Siebenbürgen; and the salt deposits of Salzburg, Upper Austria, Tyrol, Galicia, Hungary, and Siebenbürgen. The minerals and stones which are not usually obtained by mining operations are obtained in numerous parts of the empire, and comprise barytes, kaolin, fire-clay, gypsum, ochres, hydraulic and other limestones, marble, sandstone, granite, and various other stones adapted for building purposes. In 1865 the mining operations of Austria, embracing the mining operations proper and the production of the crude metal, gave direct employment to 116,788 workmen, and recently great progress has been made through the utilisation of all valuable improvements for rendering the produce marketable, and also in the introduction of steam-power for facilitating the necessary operations. In 1855 there were employed in connection with mining operations 482 steam-engines, of 11,106-horse power in the aggregate, of which 419, of 9877-horse power were used in the coal pits; in connection with iron, smelting, and refinery works, 338 engines, of 10,176-horse power; in connection with other metallurgical works, 6 engines, of 114-horse power; and in connection with metal manufactures, 50 engines, of 384-horse power. The aggregate metallurgical productions for the year were 1824 kilos, of gold; 40,850 kilos, of silver; 235,032 kilos, of mercury; 2,890,720 kilos, of rough copper; 258,196,952 kilomètres of refined pig-iron; 146,224 kilos, of cast-iron; 5,081,272 kilos, of lead; 727,216 kilos, of litharge; 24,752 kilos, of nickel; 20,832 kilos, of tin; 1,932,816 kilos, of zinc; 397,152 kilos, of antimony; 211,624 kilos, of arsenic; 37,880 kilos, of sulphur; 7,082,600 kilos, of graphite; 1,442,896 kilos, of alum; 2,836,885,352 kilos, of stone coal; 2,239,420,680 kilos, of brown coal; 312,760,224 kilos, of salt, and various smaller quantities of bismuth, uranium, chronium, tungsten, asphalt, petroleum, and mineral colours. The specimens of stalactites from the mine of Adelsberg are well worth looking at; and the slates exhibited by Mr. EUGENE BONTOUX, from the works of the Marienthaler Bergwerkschaften, are really excellent. These quarries were opened in 1859 by Mr. BONTOUX, and they have now a working face more than 3000 square lachters, from which good quality slates, admirably adapted for roofing purposes, are brought upon the market at low price, yet with a good profit to the quarry proprietors. No less than 60 machines are used on the works, employing five large steam-engines, and upwards of 300 workmen. Count BRANICKI’s iron, Dr. BRASCHÉ’s mining products, and Ritter v. FRIDAU’s specimens of gypsum and brown ironstone and spiegelstein, &c., are really magnificent, and may be more fully noticed upon another occasion.

Although the display of minerals from SOUTH AUSTRALIA is, perhaps, less attractive to the general visitor than that at London in 1862, its practical value is fully equal, and the collection is as well mounted as could be desired to give a good idea of the immense mineral resources of the colony. The Moonta, Wallaroo, Burra, and Bremer (Worthing Company’s) mines are represented with regard to copper; the Talisker Mines send admirable specimens of their products (principally silver-lead), both native and in the various stages of preparation for rendering them marketable. Wheal Co. sends three blocks of silver-lead ore, and the English and Australian Copper Company exhibit an interesting collection illustrative of the process of smelting. Amongst the less common minerals from South Australia represented, the ingots of bismuth, the precipitate of copper extracted by the wet process, the specimens of bismuth, and the cupreous bismuth ore, exhibited by the Murninnie Bismuth and Copper Mining Company, are especially worthy of attention. But probably the most attractive exhibit in the South Australian Court is the beautiful Masonic Table, manufactured and exhibited by Mr. JOSEPH F. STUTLEY, of Adelaide; it is constructed of several thousand pieces of European and colonial marble and malachite. The top of the table, which is 21 in. in diameter, shows in the centre the emblem of the Grand Master of the Masonic Lodge, while the margin of the table displays the emblems of the different officers. The emblem of the Grand Master is enclosed with the six points of masonry, and encircled with a tessellated pavement, while the top of the table, between the centre and the margin, represents a blazoned star. The base consists of a triangle, cambered; displaying on the horns, principal designs, the Doric, Ionic, and Corinthian columns; while in one of the segments between the horns there is shown a cypress tree, with the letter G over it; on the third face are six points of masonry—over this stands the emblem of Hope; while the fourth face shows the masonic keystone; the fifth face displays the five points of masonry, surmounted by the emblem of Charity—a female figure, with one child in her arms and another looking up beseechingly to her face; and the sixth face contains the alphabet of Masonry, with the letter G over it; on the third face are six points of masonry—over this stands the emblem of Hope; while the fourth face shows the masonic keystone; the fifth face displays the five points of masonry, surmounted by the emblem of Charity—a female figure, with one child in her arms and another looking up beseechingly to her face; and the sixth face contains the alphabet of Masonry, and above it the dove alighting on the earth after the flood. There is a fine collection of native Australian weapons, and the collections of woods and of natural history specimens are most attractive. The whole South Australian exhibition is highly creditable to the colony, and proves a great attraction to the visitors.

THE WB LEAD.—The justly-celebrated lead produced from the mines and smelting-works of Mr. W. BLACKETT BEAUMONT is well presented in the metallurgical court of the English section, the

energetic manager, Mr. THOMAS SOPWITH, F.R.S., having succeeded in making the case particularly attractive, by exhibiting specimens in every stage of dressing and smelting. Some beautifully executed plans and sections are shown, to explain the position of the principal mines, and the geological structure of the district (extending over upwards of 200 square miles), in which they are situated.

THE KILGETTY ANTHRACITE.—The produce of the Kilgetty, Bonville’s Court, and neighbouring collieries, has long enjoyed a high reputation, and the exhibits of Messrs. VICKERMAN and Co. here are certainly not calculated to lessen it. The coal is of extreme purity, and is largely used throughout the United Kingdom for making the finer qualities of pale malt, and for drying corn, hops, &c. The character of the coal may be judged of from the fact that the analysis shows that whilst the carbon exceeds 94 per cent., the ash is less than 1 per cent., and the sulphur only .15 (or about 1-6th of 1) per cent.—the remainder being entirely hydrogen, nitrogen, and oxygen. It has been successfully employed for steam purposes, evaporating over 104 lbs. of water to 1 lb. of coal, and the culm is largely used for lime-burning purposes both in England and on the Continent, whilst with regard to its value as a fuel for metallurgical purposes it is surpassed by charcoal only. The pig-iron made at the Kilgetty Works, from the local ores mixed with first-class hematites, is made exclusively with the Kilgetty anthracite, and this iron is employed chiefly in the manufacture of black plate, and the finer descriptions of first-class iron. It has also been used with great advantage in the manufacture of steel by the Bessemer process. Upon a piece of Kilgetty anthracite steel-iron being analysed it was found to contain—iron, 94.08%; carbon, 4.47%; silicon, 0.96%; sulphur, 0.04%; phosphorus, 0.08%; and manganese, 0.48=100.11—and more favourable constituents could scarcely be wished for.

EXCELSIOR BRICK PRESS.—Amongst the American exhibits the machine at work in the rue Suffren, just outside the Park, is well worthy of examination, and if it be inspected after the day’s visit to the Exhibition is over the price of re-admission will be saved, and the town can be readily reached by omnibus either from Grenelle or the Pont de Jena. It is the invention of Mr. ISAAC GREGG, of Philadelphia, U.S., who states that he has devoted many years of experiment and labour to the perfecting of it, but he claims that it is now unsurpassed. It will make 35,000 bricks per day of 10 hours. It tempers the clay and works all kinds with nearly equal facility. It moulds the brick perfectly, of an equal size, with clearly defined edges and angles, and a highly finished surface. Receiving a pressure of over 300 tons, the bricks dry and burn more rapidly, and with less shrinking and cracking, are of greater specific gravity, stronger, and more durable than hand-made brick, and at the same time break more evenly with the trowel. From the simplicity and immense strength of these machines they are easily managed, and not so liable as many others to get out of order. The saving of labour is so great that the cost of production is far below that of hand-made bricks; the clear profit of machines running ten hours per day in the United States being \$1000 per week and upwards to each machine; and the machines make perfect front face or press-brick, as well as all other grades and fire-brick, of an excellent quality.

THE FERNDALE AND MERTHYR COALS.—Another interesting exhibit in the English Metallurgical Department is DAVIS’S Smokeless Steam Coals. There are two descriptions of these coals brought into the market—the one known as DAVIS’S Ferndale Upper Four Feet, and the other as DAVIS’S Mertyr. Both these are largely consumed by steam-ships, locomotive engines, and manufactoryes throughout the world, and, on account of the well-known excellence of their quality, are in very great demand. DAVIS’S Ferndale Upper Four Feet is wrought exclusively from the Upper Four Feet Seam of the Aberdare district, the produce of which possesses in the most eminent degree the qualities so specially essential in coal used by ocean-going steamers, where the attainment of a high rate of speed is absolutely necessary—great and rapid evaporative power, purity, and freedom from smoke. DAVIS’S Ferndale Upper Four Feet Coal referred to has been also used in very large quantities by many of the largest steam-navigation companies both in Europe and America, whilst its recognised value may be judged of by the fact that DAVIS’S Upper Four Feet Mertyr smokeless steam coal commands 10 to 12 per cent. higher price than the best description of coal from Cardiff. The only other exclusively Upper Four Feet Coal of the Aberdare District is that worked by Messrs. NIXON, TAYLOR, and CORY from their Navigation Collieries, which adjoin D. DAVIS and Sons’ Ferndale property. DAVIS’S Mertyr is a first-class coal of the mixed description; but one important consideration with regard to it is the fact that it contains a large proportion of the Upper Four Feet produce, to which reference has been already made. The Azezzeh Mussian Company of Egypt use it exclusively, and both they and the Russian Steam Navigation and Trading Company, as well as other companies, purchase exceedingly large quantities of it, and many consumers in various parts of the world employ it exclusively for the purposes of stationary, locomotive, and other steam-engines. These coals are on the English, French, and Spanish Governments lists, and their smokeless, powerful, and pure character renders them especially adapted for naval purposes, and also for use in all large cities and towns. The present get of Messrs. DAVIS and Sons’ collieries averages about 1200 tons per day, and as they are rapidly extending their plant and workings, in order to meet the continually increasing demand, this will at no distant period be much exceeded.

THE MINERALS OF COSTA RICA.—As I observe that articles appear from week to week in the *Mining Journal* relative to the mineral resources and general prosperity of Costa Rica, it may be well to state that that flourishing little republic is well represented at the Paris Exhibition, and that all that has been stated in its favour is fully borne out. Ample evidence is afforded that the mountains contain the most valuable mines of gold, silver, copper, lead, nickel, coal, and many other mineral and metallurgical products which could be turned to profitable account. As to the general character of the country, and the encouragement offered for emigration, the representatives here describe them as something extraordinary. The Cordilleras, they say, which run completely through the State, form plateaus and enchanting valleys, covered with luxuriant forests, producing all the woods and plants of the tropics, and nourishing various animals both wild and tame, as well as birds of the rarest and most varied kinds. Upon the higher valleys the various plants and fruit trees of Europe can be successfully cultivated, whilst the numerous rivers which fertilise the land abound in fish of every kind, including pearl oysters, and a shell fish which yields the magnificent Tyrian purple. The Golfo Dulce, an immense bay on the Pacific side of the State, offers upon its shores an abundance of fertile land, which the Government, in order to encourage emigration, offers gratuitously to such colonists as being desirous to permanently settle in the country choose to apply to the Consul-General of the Republic in Paris, and I have no doubt that intending English colonists could obtain equal facilities by applying to the corresponding official in London. The interoceanic railway, to which reference has been made in the articles, was formally sanctioned by Congress on January 25 of the present year; it is to run between Limon, on the Atlantic, and Calderas, on the Gulf of Nicoya, on the Pacific, and as General J. C. FREMONT and his friends are at the head of the company which has been constituted at New York, there is no doubt that it will be energetically and successfully carried out. Senor ULLOA is no longer Minister of the Interior, as stated, the administration being—Senores CASTRO, MONTEALEGRE, and IGLESIAS, Presidents of the Republic, of the Senate, and of the Chamber of Deputies respectively; Senor ESQUIVEL, Minister of the Interior, Marine, War, and Public Works; and Senor VOLIO, Minister of Foreign Affairs, Finance, and Public Instruction. Considering the smallness of the Republic, and its distance from here, Costa Rica is well represented.

#### MEDALS AWARDED TO BRITISH EXHIBITORS.

Application of Drawing and Modelling to the Common Arts.—*Gold Medal*, Department of Science and Art, South Kensington.—*Silver Medals*, Society of Arts, London; J. S. and A. B. Wyon; Lord Romilly, Master of the Rolls.

Mathematical Instruments and Apparatus for Teaching Science.—*Gold Medals*, Dallmeyer, T. Ross, R. and J. Beck, and Chance Brothers.—*Silver Medals*, Elliot, mathematical instruments; Ladd, magneto-electric machine; Chamber of Arts and Manufactures, Toronto; Local Committee, Guadalupe.

Porcelain, Earthenware, and other Fancy Pottery.—*Gold Medals*, Minton and Co. and W. Copeland and Sons.—*Silver Medals*, J. Wedgwood and Sons, Stoke-upon-Trent; Doulton and Watts; W. Brownfield, Cobridge, Staffordshire.

Cutlery.—*Gold Medal*, Brookes and Crookes.—*Silver Medal*, George and Joseph Morton, London.—*Bronze Medals*, Maplin, Webb, M’Daniel.

Gold and Silver Plate.—*Gold Medals*, Elkington and Co., Hunt and Roselli, and C. H. Hancock; and Morel-Ladeuil, co-operator.—*Silver Medals*, Harry Emmanuel, London; Maplin, Webb, and Co.; Watherston and Son, London; Shaw and Fisher, Sheffield.

Apparatus and Processes for Heating and Lighting.—*Gold Medal*, Winfield and Co.—*Silver Medals*, Benham and Sons, London; Bowser and Sons, Glasgow.

Jewellery, Precious Stones, &c.—*Gold Medal*, Phillips.—*Silver Medals*, Hancock, Son, and Co.; J. Brogden, H. Emmanuel, Hunt and Roselli; Kersy, Punjaub; W. and J. Randel, Birmingham.

Mining and Metallurgy.—*Gold Medals*, J. Brown and Co.; Johnson, Matthey, and Co.; Bowring Iron Company, Barrow, Low Moor Company, Lilleshall Company, and Thomas Turton and Sons, Co-operators, *Grand Prize*, Bessemer.—*Silver Medals*, Dowlays Ironworks, specimens of cast-iron; James Russell and Son, Wednesbury, iron tubes, &c.; Lloyd and Lloyd, Birmingham, specimens of smelting; John Russel and Co., London, specimens of smelting; Taylor Brothers and Co., Leeds, tyres, axles, &c.; Patent Nut and Bolt Company, nuts, bolts, &c.; H. Loveridge and Co., Wolverhampton, japanned wares; A. Beard and Sons, Bilston, sheet and plate iron; Hart and Son, London, ornamental metal objects; W. Bouton and Son, Redditch, needles; A. Everett and Sons, Birmingham, tubes and rolled metals; Richard Johnson and Nephew, Manchester, telegraphic wire; the Moonta Mines Estate, Zorkil Peninsula, copper ore; R. Smyth Brough, Victoria, minerals; Tonks and Sons, brass and metal work; W. Gilpin and Co., Cannock, edge tools; Kirby, Beard, and Co., London, needles; the Wallaroo Mines Estate, Australia, copper ore; General Mining Association, Nova Scotia, block of coal; Eagle Ironworks Company, Wellington, puddled wire rods; Evans and Askin, German silver manufacturers, cobalt and nickel refining; E. J. Compton and Co., London, fine wave wires, &c.; P. S. Hamilton, Nova Scotia, gold and quartz; Patent Plumbeo Crucible Company, plumbeo, &c.; Joseph Whitley and Co., Leeds, brass steam-fittings, &c.; W. Bartleet and Sons, Redditch, needles, fish-hooks; West Cumberland Hematite Iron Company, Workington, iron, boiler-plates, &c.; Sharp, Brown, and Co., Birmingham.—*Bronze Medals*, the Aberdare Coal Company, the Bliffla Coal Company, the Boedringair Coal Company, the Blaengwyn Coal Company, Addis, Banga, Betts, Birmingham Iron and Brass Tube Company, Blaenavon, Broughton Company, T. Clark and Co., Elliott’s Company, Davis, Cardiff; English and Australian Copper Company, Greening’s Tube Company, Greenhill, Haswell Coal Company, Heeley; Hill, Birmingham; Dr. Honeyman, Field Macdonald, Martin and Smith; Morton, Wolverhampton; Millward, Redditch; Morewood and Rogers, Page, Reckett, T. Smith and Co., Stickley, Walker and Parker, Webster and Horsfall, Wigton, Company, Zobel, Townsend, and Co.; Billings’ Geological Survey, Canada, for active co-operation with the work of the commission.—*Honourable Mention*, Abbot, Bankart, Barns, Benham, Braby, Brotherton, Dollar Brothers, Green, Gregory, Hayes and Bennett, Heath, J. V. Hill, James Foundry, Leach, Martin; Midway, Birmingham; North of England Forged Nail and Rivet Company, Perrina and Harrison, Pratt; Smith, Leicester; Sparkes, Stanley, Talyferra, Mining Company, Tudor, Earl Vane, Vickerman, Walton, Whiteway, Ystalyferra.

Chemical and Pharmaceutical Products.—*Gold Medals*, C. Althausen, Gosage and Sons, Muspratt and Sons, Jarrold Chemical Company, Howard and Sons, Price’s Patent Candle Factory, and J. Young.—*Silver Medals*, Gaskell, Deacon and Co., Widnes; Walker Alkalai Company; Macfarlane and Co., Edinburgh; Morson and Sons; Smith and Co., Edinburgh; Johnson, Matthey, and Co.; J. C. and F. Field, Denton and Jussem, Mander Brothers, Demuth and Co., W. Warne and Co.; A. Parkes, Birmingham; W. A. Rose, London; Bewicke and Vincent, Crace-Calvert and Co., S. and W. Tudor; Knight and Sons, London; Lyman, Clare, and Co.; British Seaweed Company, D. and W. Gibbs; J. Barley, Stoke-upon-Trent; P. B. Cowhill and Co., Hopkyns and Williams, C. B. Condy, Hurlett Alum Works; W. Cook and Co., London; C. Ogley and Co.—*Bronze Medals*, Adams, Baker, and May (Class 80), Britannia Rubber, Burgoyne, Bush, Calley, Clark, W. Cook and Co., Danley, Davy, Yates and Routledge, Day and Martin; Dodge, Garrod, Goodwin, Green, Hass and Co., Hodgson and Simpson, Holland, Hoogsoed, Huskisson, C. Jarwood, Langton and Bicknells, Lamb and Sterry, Lange and Moselle; Lowe, Manchester; McDougall, M’Kay, Mason, Nimmo, J. N. Parker and Co., Pulford, W. Ransome, Rogers, Runsey, Squire, Stephens, Talbot and Alder, W. Taylor and Co., Turner and Son, Waudie, Waring.

Apparatus and Processes of the Art of Mining and Metallurgy.—*Silver Medal*, Garrett, Marshall, and Co., Leeds, hydraulic coal-cutting machine; Jones and Levick, Blaina, coal-cutting machine.—*Bronze Medals*, Bickford, Smith, Fowler; Jordan, London, execution of a model exhibited by the Museum of Practical Geology.—*Honourable Mention*, Beaumont and Lecock.

Agricultural Apparatus.—*Gold Medals*, J. and F. Howard; Clayton, Shuttleworth, and Co.; J. Fowler and Co., R. Garrett and Sons, Ransomes and Sims, and R. Hornsby.—*Silver Medals*, Aveling and Porter, locomotive; E. H. Bentall, Heybridge, York; Samuelson and Co., Banbury; Marshall, Sons, and Co., Gainsborough; Richmond and Chandler, Robert and Co., E. R. and F. Turner, Coleman and Norton; Picklesley, Sims, and Co.; Reading Ironworks; Penny and Co., Lincoln; J. Smyth and Sons, Peasehall.—*Bronze Medals*, E. Bousfield, Bedford, manager to Messrs. Howard; G. Biddel, Ipswich, manager to Messrs. Ransome and Sims; D. Greig, London, manager to J. Fowler and Co.; G. Wilkinson, Lincoln, manager to Clayton, Shuttleworth, and Co.

Apparatus and Processes used in Agricultural Works, and in Works for the Preparation of Food.—*Silver Medals*, Atmospheric Churn Company; H. Clayton and Co., machine for brick-making; T. Bradford and Co.; T. Spencer, London.

Apparatus used in Chemistry, Pharmacy, and in Tanneries.—*Grand Prize*, C. W. Siemens.—*Gold Medal*, Johnson, Matthey, and Co.—*Silver Medals*, Stephen Cox; Patent Plumbeo Crucible Company, plumbeo crucibles.

Prime Movers, Boilers, Engines, &c., specially adapted to the requirements of the Exhibition, &c.—*Silver Medals*, C. T. Porter, Manchester, horizontal steam-engine; W. and J. Galloway and Sons, boilers and horizontal steam-engine; Donkin, Bryan, and Co., steam-pipes and shafting; Hicks, Hargreaves, and Co., horizontal steam-engine;—*Bronze Medals*, Appliance Brothers, London, steam-cranes; Sharp, Stewart.

Machines and Apparatus in General.—*Gold Medal*, Merryweather and Sons.—*Silver Medals*, Garrett, Marshall, and Co., steam-pump; Donkin and Co., steam-engine; W. Eades and Sons, pulley-blocks; Glover and Co., London, gas-meters, gasometer; Thomas Glover, London, blow-fan; H. Pooley and Sons, Liverpool; Reading Ironworks, steam-engine; Shand, Mason, and Co., steam fire-engine; Tylers Brothers, Manchester, machine for lifting, pulley tackle; T. A. Weston, Birmingham, hoisting apparatus; Co-operator, the late Cap. Fowke, fire-engine.

*Bronze Medals*, Baines, N. Defries, Electro-Magnetic Company, Gas Meter Company, E. Green and Son, Kennedy, Marshall, Sons, and Co., Paul, Royal Life Protection Society, Sugg, West and Gregson, Williamson, North Moor Foundry Company, E. Hill and Co., T. Lambert and Sons, Leon, Newton and Bradstock, Swann, R. W. Thomson, Warne, Westminster, and London Meter Company, G. Wilkinson, foreman to Messrs. Clayton and Shuttleworth.

Machine Tools.—*Grand Prize*, Whitworth and Co.—*Gold Medals*, Sharp, Stewart, and Co.; Shepherd

## Meetings of Mining Companies.

## SOUTH FOWEY CONSOLS COPPER MINING COMPANY.

A meeting of the shareholders and others interested in this enterprise was held at the London Tavern, on Thursday, "for the purpose of endeavouring to complete the formation of the company."

Mr. NICHOLAS KENDALL, M.P. for East Cornwall, in the chair.

Mr. W. POLKINGHORNE (the purser) read the notice convening the meeting.

The CHAIRMAN said that he had not the least idea he would have been called upon to occupy the chair upon the present occasion, and he much regretted that he had been voted to that position in the unavoidable absence of Mr. Brydges Willyams, who had so fully gone into the question of the merits of the South Fowey Consols Mine, and, therefore, could have so ably explained its every detail. He (the Chairman) thought, however, he could justly say that no one—not a practical working miner—knew more of the locality and its mineralogical capabilities and characteristics than he did; and although they were all aware that there was no certainty as to the results attending any mining operations, yet he thought he could give certain information which might be of value. (Hear, hear.) But before proceeding further he would call upon Mr. Polkinghorne to read the prospectus, which pointed out the merits of the sett.

Mr. POLKINGHORNE then read the prospectus, which has already appeared in the Journal. It pointed out that the sett extends nearly a mile in length from east to west, and half-a-mile in width from north to south, having on the south-west Par Consols, and on the north-east Fowey Consols, which mines have been two of the most productive in Cornwall, having yielded upwards of 3,000,000 stercing in copper and tin ores, giving profits to the shareholders of more than £400,000.; that a shaft, already sunk in the western part of the sett, could be immediately made available, and when the water is drawn therefrom copper ores could be at once raised; that 12 highly promising copper lodes have been discovered within the sett, from two of which, some years since, a quantity of copper ore of good quality was raised and sold, but from want of sufficient capital these and the other lodes were not explored; that it was always the intention of the late enterprising and successful miner, Mr. Joseph Thomas Trefry, to have properly developed this mining property; that the Cornwall Railway passes through the property; Par station adjoins it, and Par shipping harbour is about a mile distant; hence the produce of the mines and all necessary stores can be conveyed at comparatively very little expense, which are advantages of great importance; that several working miners, who have been employed in the adjoining mines for many years, think so highly of the sett that they have subscribed for shares and paid the deposit thereon; moreover, a large amount is promised to be subscribed by inhabitants of the neighbourhood; this is a proof of the high opinion held by those who best know the ground; that leases for 21 years have been secured within the last year on advantageous terms, the dues ranging from 1*st*-*th* to 1*st*-*th*; that the company can have the important advantage of an abundant supply of water for general purposes at an annual rental; this will save an enormous expense; and that with a capital of 12,000*l.* it is considered that the mine can be properly developed, and from the outlay of which, on such portion thereof as may be required, it is confidently expected that early and large profits will be the result.

The reports appended to the prospectus are from the leading authorities in Cornwall. That of Mr. Peter Clymo (of South Caradon) states that "Having been one of the principal agents of the Fowey Consols Mine for 18 years, which joins the ground intended to be worked by the South Fowey Consols Company, I know the whole sett well, and that there are several very promising lodes contained in it that are well deserving of vigorous development; and if that is done, my firm belief is the parties will be well remunerated for their outlay." Mr. John Petherick states that "The mine contains several large and, with one or two exceptions, thereto untried lodes of considerable promise; and from my personal knowledge of the ground in question, and taking into account the facility with which it can be explored to a satisfactory extent, at a comparatively small expense, by means of water-power obtainable from the adjoining mines, which I presume will render it unnecessary to have recourse to steam-power, and bearing in mind, also, the highly metalliferous character of the district, I have no hesitation in stating that I consider it to be an excellent speculation for the investment of capital, and that, if explored in an effectual and systematic manner, and with a due regard to economy, there is, in my opinion, every probability of its becoming, within a reasonable period, remuneratively productive." Capt. Francis Puckey (managing agent of Fowey Consols, Par Consols, and Cudra Mines) considers that "The advantages for developing the mine are more than ordinary, and from the locality and mineral-producing character of the ground, I am of opinion that, with sufficient capital to prove the mine, combined with perseverance and economy, that the shareholders will be well remunerated for their outlay, and that it will prove a lasting and profitable mine; indeed, I do not know a better speculation in the county of Cornwall." Capt. Charles Thomas (of Dolcoath) states that "The sett lies immediately to the south of Fowey Consols, which has been so very productive for a long period, and is in the same geological formation. Several lodes have been discovered in the sett, one of which is said to have been worked out to the depth of 80 fms. below adit, and to have produced considerable quantities of copper ore. Some of the other lodes have only been seen in the adit level. Looking at the position of the mine, we consider it to be a speculation of no ordinary promise, and one which is likely, if extensively worked, to be profitable to the adventurers."

The CHAIRMAN said he would much rather that some person who had no interest in the sett had occupied the chair upon the present occasion; but he might state that although he was the owner of a portion of the land, yet it was in such a position that it could not possibly be worked for many years to come, certainly not during his life-time. He had, too, an interest in the water-course, which, however, would prove to be of the utmost value, inasmuch as it would enable the property to be economically developed. For those reasons he was sorry he occupied his present position; but since he had been called upon to preside he would avail himself of the opportunity to state that he had known the various mines in the neighbourhood from his boyhood, that he had been constantly underground, and that he had very largely profited by them. (Hear, hear.) There were four sets—Par Consols, Fowey Consols, Polharmon, and South Fowey Consols. From Old Fowey Consols he had in a few years received royalties amounting to more than 40,000*l.*; for 250*t.* invested in Par Consols he had received not less than 10,000*l.* (hear, hear)—and as to Polharmon, in the development of which four wealthy friends had joined him, he believed they had there also a good mine. Now, South Fowey Consols was a piece of ground which lay immediately between those mines—the ore was found under precisely the same mineralogical conditions, and the strata were identical. As to the lodes in South Fowey Consols, he might inform the meeting that many years ago in driving one of the adits a lode of a very promising character was discovered, but that in the meantime it was agreed to concentrate the operations at Fowey Consols, the south ground—that now known as South Fowey—having been kept by the late Mr. Trefry as a "reserve," which it was his full determination to have developed. He did not know that he need state anything further, and the more especially as there were several present who could give a practical opinion as to the mineral capabilities of the district. (Hear, hear.)

Mr. POLKINGHORNE then proceeded to read a letter received from Mr. John Petherick, as follows:—

"Surbiton, June 27.—I am in receipt of yours of the 24th instant, and very much regret that it will not be in my power to attend the meeting of the South Fowey Consols Company, at the London Tavern, on the 4th proximo, as I leave for Ireland on Monday next, and shall probably be detained there two or three weeks. In the present depressed state of the mining interest, particularly in your locality, it is of peculiar importance that every effort should be used to open up and explore new mines wherever the prospects warrant the necessary expenditure of capital, and I consider that South Fowey Consols Mine is in every respect a most eligible speculation, and that if worked in an efficient manner, and with sound judgment, it affords every reasonable prospect of success, and with such views I can have no hesitation in recommending it to the notice of my mining friends.—JOHN PETHERICK."

Mr. POLKINGHORNE said that he had this day seen Mr. Edward Cooke, who had made personal enquiries as to the merits of the property. He regretted he was unable to be present at the meeting, but to show his appreciation of the mine, he had taken 75 shares, in addition to the 25 for which he had previously given his name; and Mr. Peter Watson (who was represented at the meeting) had taken an interest, and having a very high opinion of the property, had expressed his willingness to render any assistance in his power in furthering the interests of the enterprise. Mr. William Gundry, who had been visiting within three miles of the spot, had also taken an interest in the company.

Mr. WILLIAM WEST (St. Blazey, Cornwall) said he was one of the oldest engineers in the district of South Fowey Consols, having been engaged there and at the neighbouring mines for a period of no less than 37 years. He bore testimony to the fact that in South Fowey a shaft was sunk to the depth of 80 fms. under the adit, from which thousands of tons of copper ore were raised; and for the working of that lode alone Mr. Peter Clymo had said he was prepared to take an interest, leaving all the other lodes entirely out of the question. But when the 80 fm. level was reached, and the lode, as he had already stated, had been proved, to the late Mr. Trefry, and his managing agent (Capt. Puckey) he considered that Fowey Consols was quite good enough for the time, and that it would be better to keep South Fowey in reserve. Mr. Trefry never intended to shut up that mine altogether, as Mr. Kendall (the Chairman) was well aware of, and thus it had been kept in abeyance for no less than forty years. Mr. Trefry would never allow anyone to have it, because his intention was to work it himself. He (Mr. West) could well recollect Capt. Puckey telling him that the cross-cut had passed through 12 lodes, many of which were of great promise. The stones of iron upon the table were taken from a depth of only 10 fms. from surface, and it was admitted on all hands that no mine could say what ore-stones of such a character were likely to lead to. There was another lode of a very fine, kindly character, which would, in a very short time, be intersected in South Fowey. Looking at the South Fowey Consols, as a whole, he could not see how it could possibly prove a failure; there were Par Consols, Fowey Consols, and Polharmon, and South Fowey in the centre, with precisely the same strata, and having parallel lodes. Perhaps the best evidence that could be adduced as to the opinion entertained with regard to the property in Cornwall was the fact that about one-third of the shares had been taken up in the county. —Mr. POLKINGHORNE said that 1800 out of the 6000 shares had been taken up, principally by Cornishmen.

Mr. GEORGE BATTERS asked if Mr. Peter Clymo had taken any shares?

Mr. POLKINGHORNE replied in the affirmative.

Mr. GEORGE BATTERS said that spoke volumes. He (Mr. Batters) did not know that he had ever attended a preliminary meeting of any company that was inaugurated under such favourable auspices, or with such prospects of success. No promotion-money had to be paid nor free shares given, and all would equally share in the success. Each would bear his proportion of the burthen; and, although there could not be any certainty as to results, yet they all started upon a fair and legitimate basis, and it was impossible to obtain stronger or more corroborative testimony as to the value of any unexplored mineral property than that which had been adduced upon the present occasion. He was glad that Mr. West had afforded the explanation as to the reason a piece of ground in such a prosperous district had remained for so long a period unexplored, for the public would naturally ask themselves the reason. Therefore, it was most satisfactory to find the late Mr. Trefry had such a high opinion of the property that he would not allow it to pass out of his hands, his intention being to work it as a private adventure.

The CHAIRMAN thought he could give an additional reason why the late Mr.

Trefry did not work the property, but he would content himself by merely stating that it did not arise from an excess of availability on the part of certain persons with whom he was associated.

Mr. LAMBERT said the fact that each of the directors, considering their local position and influence, had taken a great interest in the company, showed their faith in the ultimate results of the property. Mr. Brydges Willyams (whom he regretted was not present) had told him that he had a very high opinion of the mine, and that he would support it in every way. Seeing they had such a direction as the Rev. Dr. Trefry, Place, Fowey, Cornwall; and Messrs. N. Kendall, M.P., Polyn, Cornwall; E. W. Brydges Willyams, Nankevel, St. Columb, Cornwall; William West, St. Blazey, Cornwall; and William Browne, St. Austell, Cornwall, he (Mr. Lambert) thought those interested in the enterprise were not only fortunate in having such gentlemen to direct their affairs, but that it was a guarantee to the public that they were justified in subscribing for shares. (Hear, hear.) He must confess he never saw a direction in which he placed greater confidence, and having that confidence, he intended to increase the interest he had previously agreed to take. (Hear, hear.)

The CHAIRMAN said the board would be only too happy to have the co-operation of some London gentlemen as directors. —Mr. BATTERS thought the present directors were ample.

Mr. W. BROWNE (St. Austell, Cornwall) reminded the meeting that the directors were not in that category of quadrupeds known as "guinea pigs" for they received no pecuniary remuneration whatever—(hear, hear)—except it be from the success of the speculation, in common with their co-adventurers. He had been well acquainted with the district for a great number of years, and he certainly had looked forward with a considerable amount of anxiety to the time when South Fowey would be worked, although he was perfectly aware that it was but until recently it could be obtained. It was only when the lease of Fowey Consols was about to be renewed that this south ground could be obtained, which Mr. West and himself had secured without expense to the shareholders, all of whom would join in the adventure upon the same terms and conditions as did Mr. West and himself, and he had no doubt it would prove a highly productive mine. It possessed unusual advantages for an economic development, and the cost of carriage of materials and ore would be inconsiderable—and that was an item from which many mines suffered very materially. Taking every fact into consideration, they could come to but one conclusion—that South Fowey Consols was a property which well deserved the attention of the public.

Mr. JEHO HITCHINS said he attended the last meeting, and he believed he had the honour of proposing the names of the gentlemen who now constituted the board. No one could gainsay the fact that those gentlemen were not only highly respectable, but that they were men of high character and of considerable experience as any in the county of Cornwall. (Hear, hear.) A little omission, he stated, had been made in the interesting discussion which had taken place, with regard to their property, and that was that, being within the limits of Par Consols and Fowey Consols, it partook of the same nature, both of stratification and lodes; and, therefore, it was but a fair assumption that the lodes would be equally productive. He was not generally considered to be enthusiastic in mining, but he could assure the public that the South Fowey was a purely legitimate undertaking, and one of no ordinary promise. (Hear, hear.)

Capt. PUCKEY explained at some length (by means of a section) the importance of the respective points, and expressed a highly favourable opinion of the property.—Mr. DUNSTAN said he had just seen a letter from his brother (Captain Dunstan), the manager of the Wallaroo Mines, Australia, in which he stated—"I am glad to see in the Journal a prospectus of the South Fowey Mining Company. I have known this ground for a long time, and I am satisfied that it is a property of the highest value. I have no objection to the proposition."—Mr. W. L. WEBB (Stock Exchange) then proposed—"That this meeting is of opinion that South Fowey Consols is a sound and legitimate mining speculation, well deserving the attention of capitalists."

Mr. LAMBERT having seconded the proposition, it was put and carried unanimously. The CHAIRMAN, having appropriately acknowledged the vote, reiterated his opinion that the South Fowey was a most legitimate and sound speculation; better he did not know, except where deposits of ore had really been discovered. The meeting then separated.

## WHEAL EMMA (BUCKFASTLEIGH).

A general meeting of shareholders was held at the mine on June 20,

Mr. J. H. STALLARD, M.B., in the chair.

The captain's report of the appearance and future prospects of the mine was considered very satisfactory, and it was agreed to apply to Lord Macclesfield for an extension of the sett, so as to embrace another lode to the north of the present workings, which will greatly enhance the value of the property. The agent's report is as follows:—

*June 29.*—Since the last general meeting we have sunk the sump-shaft from the 104 to the 116, and cut flat at the latter level; and, in doing this, we have taken away a portion of the south part of the lode, composed of fluor-spar, friable quartz, prian, and ore, worth 8*t.* per fathom. This is a favourable feature for the mine in depth, and I should urge the propriety of sinking the shaft with all dispatch. We shall extend this level about 2 fms., and cross-cut north through the lode, to prove its value and character. This level is also extended east on the floor course 6 fms., and the men are now engaged in cross-cutting north to the lode, to prove its value. The 104 is driven east of No. 1 cross-cut 3 fms. 4 feet, through a lode composed of fluor-spar, quartz, prian, mundic, and ore, yielding for the latter ½ ton per fathom. Although not very valuable in itself, this indicates, judging from the character of the lode at and about the same distance from the shaft in the upper levels, that the lode as it increases in depth becomes more refined and mineralised. We have intersected the lode at No. 2 cross-cut at this level, and are driving on its course; value 14*t.* per fm. No. 1 stope, in the 92, is worth 16*t.* per fm.; No. 2, 25*t.* per fm.; No. 3, in the 50, 15*t.*; No. 4, in same level, 10*t.* per fm. We have 46 miners employed in tutwork and tribute, with, our dressing pare, make a total of 100. We have during the last four months raised and sold about 260 tons of ore, for 140*t.* 16*s.* 8*d.* and we shall sample on Thursday next about 145 tons of good ore, the produce of the last two months; value about 75*t.* On the whole, I consider our prospects are very encouraging.—T. BENNETT.

**THE MINERS' NATIONAL CONFERENCE.**—On Friday, the President brought an important case under notice, the trial of "Wilson v. Merry and Cunningham," which took place at Edinburgh. A sum of 100*t.* had been awarded to the boy Wilson for injuries sustained from an explosion. The owners for the colliery appealed against the decision, on the ground that they had invested the manager with all power over the mine, but the manager disclaimed responsibility, as the profits of the colliery went to the owners. On the appeal the Court of Sessions confirmed the decision of the Lower Court, and the owners were now appealing against the decision to the House of Lords.—The President strongly urged the Conference to take up the case, and a resolution was passed empowering the President to defend the case in the House of Lords.—The accident at the Washington Colliery, Newcastle, was next brought under notice. The accident had resulted through defective appliances for lowering the men down the pit.—The President stated that Lord Kinnaid had taken an active interest in the question, and he urged that, although the men in this pit were not Union men, yet in the general interest of the mining body, the Conference should do something.—A resolution was passed remitting the case to the National Council, the President remarking that, if a trial could be obtained, the evidence would have great weight in furthering legislation on the subject.—The accident at Worley was the next case referred to. The agent for the district (Mr. Halliday) complained that no practical working collier had been examined at the inquest, and that the evidence as to the cause of the accumulation of gas had been kept back. The Government Inspector had previously complained of the defective state of the upcast shaft, and although this had not been attended to, the proprietors were held free from blame. A resolution was passed instructing the agent to collate all the evidence on the subject, with a view to its being forwarded to the Home Secretary, to show that justice had miscarried. After hearing several minor cases, the Conference proceeded to the consideration of the proposed alteration of the rules.—The President called attention to the fact that Trade Unions were considered to be on their trial. Commissions were sitting in London and Sheffield. He repudiated the statements in some of the papers that Broadhead was a type of Trade Unions generally. But, in view of the enquiry, he submitted it would be unwise to alter the rules at the present Conference, as probably within a month the officers of the Association would have to be examined. Were the rules altered now they would lay themselves open to the charge brought against some of the persons at Sheffield of having altered their books to suit the Commission. He urged that all the books and documents should stand as at present until after the enquiry was over, which was ultimately agreed to.—The auditors' report showed that the income of lock-out fund had been 5655*t.* 11*s.* 2*d.*, and the expenditure 5616*t.* 15*s.* The sum of 200*t.* was allowed to Oldham, and 50*t.* to Farnworth and Kersley to aid the men locked out there. The Conference proceeded to the appointment of officers, and this closed the proceedings.

**THE MINES ASSESSMENT BILL.**—At the meeting of the Mines Assessment Committee at Truro, considerable discussion took place as to proposing for insertion in the Bill an additional clause, providing that in the case of mines where by existing leases the lessees have covenanted to pay all local rates the lords, who by the Bill are alone to be rated, shall be entitled to claim from their lessees—the mine adventurers—repayment of one moiety of the rate. The committee appeared generally to concur in the opinion expressed at the recent county meeting in Truro, that the lord alone ought to be rated, and on the amount of his dues or royalty; and that in no case should he be entitled to recover from his lessees more than a moiety of such rate. This principle being held by the committee generally as in itself fair, and also a satisfactory arrangement as between mining and agricultural interests, various reasons were suggested why it would be inexpedient to run the risk of imperilling the passing of the Bill as now before Parliament, for the sake of introducing any further provision affecting the arrangements between landlords and their mining lessees. It was also urged that by far the larger proportion of mines do not at present pay rates, and that, in those cases where, by covenant with the lords, they do pay, after the termination of existing leases new arrangements would have to be made in conformity with the Act, which would require all local rating to be on the lords' dues; and on these grounds it was considered unadvisable to imperil, by any attempt at exceptional legislation, the establishment by Parliament of the principle of rating lords' dues, and these alone. In regard to the so-called exceptional legislation in favour of Stannary Mines in Cornwall and Devon, Mr. Bolitho suggested the propriety of putting before Parliament more strongly than it appears, has hitherto been done the very great distinction that exists between these mines and the iron mines and coal mines—the speculative, risky nature of the former, and the certainty with which calculations can be made of the quantities of iron ore or coal to be worked, and of the profits to be derived therefrom.—Mr. Boger also spoke of the difference existing between the speculative character of Cornish mines, and of the impossibility of fixing on them, as might be done with coal mines, a settled annual rent (say) for 21 years. All that could be done in their case was to make the nearest possible approximation to that principle by rating dues actually derived by the landholder.—Mr. P. P. Smith feared that members of Parliament generally did not at all appreciate the distinction just

mentioned, and, in proof of the hazardously speculative nature of Cornish mining, he stated, speaking from recollection, that Mr. Heard had recently informed him that not more than nine mines in Cornwall were now regularly paying dividends, although a very few others paid dividends occasionally.—Mr. Smith thought it might be well to furnish members of Parliament with the number of mines now in working in the Stannaries, and the capital with the number of shares held by them, and also with the actual number of those that were paying dividends.—Mr. Bolitho thought such a plan desirable, for, though members of Parliament (excepting the Cornish members) did not appreciate the distinctions between the Cornish mines and the mines of iron and coal, it was well to their present dues. But iron and coal mines might be taken at a rent equal to their present dues.—Mr. Grylls also observed that iron mines were, in fact, no quite certain that if the present Bill should pass dues, and dues only, would be rated. He added that persons in Cornwall would be surprised to find how ignorant many members of Parliament were on mining matters. There were on the Parliamentary Committee on this Bill men who had never seen a mine in their lives. It was intimated that Mr. Bolitho would be a most useful representative of mining interests in the House, but he observed that no one could be believed, was going to town.—Mr. Stokes mentioned that in the General Assessment Bill the schedules would include clay-works as assessable in the same manner as iron mines, and he remarked that from clay-works the lords received about 16*t.* dues. At the close of the proceedings it was hinted that dividend-payers might fairly be expected to contribute towards defraying the committee's expenses.—Western Morning News.

## [ADVERTISEMENTS.]

**From Mr. EDWARD COOKE:**—Having been engaged on a jury at the Court of Common Pleas during the week, I am unable to give a fair *recurring* price of tin. As regards this metal, there appears to be an advance in prospect than for that of copper. A report of the financial position of PROSPERO UNITED MINES has now been circulated among the shareholders, and it will be seen that, although no dividend will be paid at present, the sum of 1500*t.* has been laid out, and charged for additional machinery, including water-wheel and stamps, since the last meeting. This sum is equivalent to about 6*t.* per share. Now this has been done the returns of tin will be considerably increased. NORTH CROFTY shares have been dull of sale. It was supposed that a dividend would be declared at the next meeting, but circumstances have transpired which prevents this being done. The mine, however, is looking well, and gradually improving. The report from WEST WHERAL KITTY this week is of a most satisfactory character. This is opening up an excellent tin mine, and will in all probability become equally as productive as the other mines in the same locality. Instead of the shares standing at the price they do, they are really worth double the present price. A meeting of the SOUTH FOWEY shareholders took place on Thursday, at the London Tavern, when the very much esteemed M.P. for East Cornwall, Mr. N. Kendall, took the chair. As will be seen by the prospectus, the ground which comprises the above mine was considered by the late Mr. Trefry as being very valuable for mineral. I shall be very to send more particulars to anyone requiring

of notice, and when no one would look at them scarcely. The price at present is about as many pounds. This is an instance of the extraordinary profit which foresight and prudence often secure. For some time past SOUTH CALLINGTON shares have been enquired for, and as those who are buying the stock know well the merits of the case, it is fair to presume that a change for the better may be expected. This property is in the hands of a few very influential parties, and the shares should be bought.

WEST WHEAL KITTY.—This mine is one of those concerns which will tell its own tale. Its financial position—its extraordinary merits—its first-class constituency, all recommend it. Those who sold it at 4s. per share, in direct opposition to my advice, now see how wrong it was to fly in the face of facts; and, probably, the speculative portion of the public will be more eager to buy at 2s., than they are now.—WHEAL CHIVERTON: This is one of the many concerns deserving special attention. When in Cornwall, a few months since, I was informed by my inspecting agent that it was a mine of considerable promise, and the price then ruling, which was, if I remembered rightly, below present quotations. I refer to it with pleasure as a very excellent investment.—NORTH CHIVERTON: No one whishes this mine success more than I. It will be of infinite importance to the district, and do great justice to the enterprising shareholders who are in it. The prospects are certainly most encouraging, and for some time past it has been acknowledged as an undertaking of no ordinary merit. The facts and thoughts which have occurred to me during the past hour I have now committed to paper, in the hope that this article will be a safe guide for my readers. When making our plans for the future let us never forget the past. The Mining Market has a history, and as I read it I learn from every page, that, as a rule, people lose by unjustifiable indiscretion, and gain by following the prudent course of buying shares of unquestionable merit in the utter absence of excitement. How difficult it appears to many to do that!—N.B. News of an improvement in West Kitty has just reached me. There is also favourable intelligence from West St. Ives.

From Mr. JAMES HUME.—With the exception of a few mines, which are made the shuttlecocks of the market, business is not so extensive as could be desired, but at the same time the present is a rare opportunity to secure at a low rate an interest in many very genuine properties, destined to flourish when some of the concerns now loudly praised are altogether forgotten. A second rise in the price of tin is encouraging, and there is no doubt that this metal will continue to rise with the increase of trade generally. There are several tin mines now neglected which require only a higher price for their produce to enable them to make profits. In copper mines CLIFFORDS have been largely dealt in at advanced prices. The last report issued to the shareholders is of the most satisfactory character, and describes immense courses of ore. With a better price for copper the mine will, no doubt, resume its former position. From EAST BASSET there is, at last, good news; the north, or ore-bearing part of the ledge, is intersected in the 130, of the most promising character, with every indication of fine a course of ore as in the 120. Shares have advanced, and have been done at various prices, from 20s. to 25s. WHEAL AGAR is well spoken of as possessing future merits, and is deserving of a better market for the shares. In PRINCE OF WALES shares the sensation effort continues with a small section, but the majority of dealers, who are well informed as to its real merits, seem to act as though they had before them the picture of the skating catastrophe on the "broad water." In gold mines, DON PEDRO shares have attained to 4*l*. prem. CHONTALES, 1 to 1*1/2* prem.; expectations point to a further advance. MINERAL RIGHTS: If all turn out correct that is now foreshadowed success here is not very far distant.

## MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

We are pleased to hear of a recent discovery in a mine situated near the Fowey Consols, called WHEAL POLHARMON, which may probably lead to something important. The mine has been worked for the last three or four years by five gentlemen, whose perseverance has been at last rewarded. In sinking a mine there is a very fine ledge just discovered, immediately under the 40, of yellow copper ore; it is 3 ft. wide, upwards of 1 ft. of which is solid, calculated to be worth 30s. to 40s. per fathom. We have seen a specimen of the lead, which is of a most promising character, and is as rich as yellow copper ore can be. We understand the 70 fm. level is driving east towards the mine, which is 11 fms. distant, and has now drained it of the water, and which will be communicated with it in about two months. The 70 fm. level is daily expected to reach the ground under the mine.

THE CENTRAL SNAILBEACH MINING COMPANY.—The half-yearly meeting of shareholders was held at the George Hotel, Shrewsbury, on Wednesday, the particulars of which will be given in next week's Journal.

GREAT WHEAL VOR has not looked so well for two years as at the present time. The ledge in the bottom of Ivey's shaft is reported to be worth more than 100*s.* per fathom, with every prospect of a continuance, if not of increasing in value. Few mines will be more advantageously affected by the advance of tin.

WHEAL CHIVERTON is opening out a very rich mine, and in a comparatively short time is expected to enter the Dividend List. This is one of the cheapest and safest lead mines to invest in in Cornwall.

At EAST WHEAL GRENVILLE an important change has taken place in the character of the ground in the shaft, which is now down nearly 10 fms. below the 95 fm. level. Such is the favourable nature of the change that the agents have advised sinking to the 110 before driving another level, as from present appearances either a course of ore will be met with before that depth is attained, or the deeper level will not have to be driven so far before the ore is reached. There is a fine course of grey ore, worth in places 100*s.* per fathom, standing in the bottom of the 95, and, should this run of ore hold down to the 110, the adventurers would soon be rewarded for their spirited perseverance.

EAST CHIVERTON.—This valuable and promising mine bids fair to equal its neighbours. It is situated in the richest lead district in Cornwall, and holds out splendid prospects; it adjoins Chiverton, is due east of West Chiverton, therefore embraces the ledge of that splendid mine, one of which ledges was lately cut containing rich silver-lead ore. West Chiverton has paid 58,125*s.* in dividends since October, 1863. East Chiverton shares are the cheapest in the district. The shaft is now down 23 fms. from surface, and in a little further sinking they will intersect the ledge that has been so immensely rich in West Chiverton. There appears every prospect of their meeting with productive silver-lead ore at this depth. When these shares are 10*s.* each the public will begin to buy.

NANGILES MINE.—The prospects of this mine are better than for two years past; in fact, it is fast approaching a paying state. In May they sold 76*s.* worth of copper and tin, and, again, 69 tons on the 4th inst. There is a new shoot of ore in the 120 fm. level; the ledge is worth 3*1/2* tons of per fathom. The ledge in the 130 is 3*1/2* ft. wide; this end is now 6 fathoms short of the place where the 120 end first began to make ore in paying quantity. This mine will ere long turn out a prize. There are only 1024 shares, and at present price they are a very cheap investment.

ROSE AND CHIVERTON.—In times like these it is well to watch agents' reports; and on reference to those sent concerning this property by the managing agent it will be seen that he has always had over the quantity of lead estimated—for instance, 15 tons was estimated as the result of last month's working. Similar facts might be given with reference to many other mines, and particularly one now prominently on the market, and such facts reflect the greatest credit on the agents interested. It is certainly very much better to undervalue points of operations than the contrary. Errors of judgment arise in the best-regulated minds, it is true; and in the large majority of cases where points appear to be over-estimated, it is but fair to make every allowance for the difficulty in making mining calculations.

The PROSPER UNITED MINES statement of accounts, to July 3, show a debit balance of 99*s.* 19*s.* 2*d.* In the cost-sheets, which are very heavy indeed, are charged the expenses of a 70-ft. diameter water-wheel, axle, stamps, and calimer, and other expenses incurred in erecting them; and the purser estimates the extra expenses at 150*s.*, at least, or sufficient to pay a 5*s.* dividend. The wheel and stamp will be at work during the present month, after which time the return of tin will be considerably increased. There has been a sale of copper ore amounting to 189*s.* 2*s.* 4*d.*, but the ore bills not having been received it is not credited. A sale of tin will also take place on Saturday (this day), and there is also 400 tons of copper ore sampled for sale next week. The mine continues to open well, and both shafts are being sunk from the 90 to the 100 with all possible speed. No meeting will be held until next quarter.

Notwithstanding the general depression which has been felt in all mining enterprise of late, many progressive mines are opening up great discoveries. At SOUTH FRANCES the improvement they have in the 70 and 80 fathom levels warrants, unquestionably, a 2*s.* rise per share, and the agents anticipate to pay a dividend at the next or coming meeting. EAST CARN BREA's prospects are improving daily. The beautiful ledge cut in the 80 is the most promising that has yet been seen in the mine. CHIVERTON MOOR, bounded on the east by the rich West Chiverton, looks well for becoming a splendid mine. The locality in which it is situated, and the extraordinary improvements seen and stated by parties that have recently inspected it, justify our anticipating this property becoming valuable and permanent. The bottom levels improve as they get nearer the deposit of lead gone through in the upper levels. At EAST BASSET we learn also of an improvement.—Redruth, July 3.

DIVIDENDS IN PUBLIC COMPANIES.—In completing the series of articles on investments (12 in number) in Mr. Lelean's Stock, Share, and Finance Register, for July, the writer has appended to his review of the 12 months a classification of companies, and has exhibited, in a tabulated form, the par value of shares in 12 of the best of each, the average market price, the declared dividends for the 12 months, and the rate of interest realised by the dividends for that period. From this statement it appears that in railways the average dividend for the year was 3*1/2* per cent., and the rate of interest realised on market prices at the rate of 3*1/2* per cent., three paying no dividend; in banks 13*1/2*-15*1/2* per cent., realising 8 per cent.; in miscellaneous 9*1/2* per cent., realising 7*1/2* per cent., one not paying; mining 38*2/3* per cent., realising 10 per cent.; hotels 4*1/2* per cent., realising 3*1/2* per cent., five not paying; colonial securities 5*1/2*-13*1/2* per cent., realising 6 per cent.; foreign securities 5 per cent., realising 7*1/2* per cent.

The Cunard steamer Cuba has just made the quickest passage across the Atlantic on record. She left Halifax on June 20, at nine o'clock in the morning, and reached Rothes Point, Cork, at ten at night on the 27th, thus making her trip (allowing for difference of time) in six days and 20 hours. Her running was at the rate of 31*miles* a day.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending June 30 was 13,025*s.* 8*s.* 2*d.*

HOLLOWAY'S OINTMENT AND PILLS.—HAPPINESS ROUND THE HEARTH.—With the sore trials, temptations, and accidents daily endangering health and life in large cities, it is most important to have at hand some means of stopping the huddling evil, for the longer it is neglected the more wide-spread is the generation. Holloway's medicaments supply this great want; they are inexpensive, purchasable everywhere, can be readily used, are safe in inexperienced hands, and perfectly reliable as healers and purifiers. Holloway's pills cure inflammation, abscesses, and ulcerations, with a facility hitherto unknown. Holloway's noble remedies give relief to sufferers from skin diseases of the most revolting character, for which in bygone days minerals were often administered with fatal consequences.

## RAILWAY WAGON WORKS, BARNSLEY.

MESSRS. G. W. AND T. CRAIK are PREPARED TO SUPPLY COAL and COKE WAGONS of EVERY DESCRIPTION, either for cash, or by preferred payments through wagon-leasing companies. WAGONS PROMPTLY REPAIRED.

THE WILSON FURNACE. SMOKELESS, WITH ECONOMY OF FUEL. Apply to—Mr. E. B. WILSON, 12, RYDER STREET, ST. JAMES'S, LONDON, S.W.

CHARLES J. SPENCER AND CO., ENGINEERS AND CONTRACTORS, NO. 4, QUEEN STREET PLACE, CANNON STREET, LONDON, E.C.

HORIZONTAL ENGINES, of all sizes, suitable for WINDING and other COLLIERY PURPOSES, kept in stock, and made to order. ESTIMATES and PLANS given for BOILERS, SHAPING, MACHINERY, &c.

HERBERT AULT, ENGINEER, DRAUGHTSMAN AND PATENTEE'S ASSISTANT,

VALUER OF MACHINERY, IRONWORKS, RAILWAY and COLLIERY PLANT, and other works; DESIGNER and CONTRACTOR for every description of RAILWAY and COLLIERY PLANT, CONTRACTORS' and other LOCOMOTIVES, HOT AIR and HOT WATER APPARATUS, &c.

Preparer of models &c., for patentees, and every other assistance given upon the most moderate terms. Estimates given for taking down and erecting works and other machinery.

Applications addressed to HERBERT AULT, Netherton, near Dudley, will meet with prompt attention.

N.B.—HERBERT AULT begs to call the attention of gentlemen about to put up greenhouses or conservatories to his large assortment of designs at exceedingly low prices.

GLAHOLOM AND ROBSON, HENDON PATENT ROPERY, SUNDERLAND, MANUFACTURERS of ALL DESCRIPTIONS of STEEL IRON, and HEMP ROPES for COLLIERIES, SHIPS, &c.

PATENT IMPROVED PICKS, FOR COLLIERIES AND MINERS.

For terms and information, apply to the patentee,—F. W. DAHNE, Engineer, Morriston, Swansea; or DAVID THOMAS, Mineral Agent of the Governor and Company of Copper Miners, Cwm Avon, Talbach.

TO MANUFACTURERS OF PATENT FUEL, FIRE-BRICKS, POTTERY, ARTIFICIAL MANURES, CEMENT, &c.

CARR'S PATENT DISINTEGRATOR, FOR REDUCING to a FINE GRANULAR POWDER from 50 to 200 tons a day (according to size) of any UNFIBROUS MATERIALS, whether they be SOFT and CLOGGY, like superphosphate, wet clay, &c., or HARD and DRY, like bone ash, coprolites, burnt earthware, minerals, coal, &c.; also for MIXING PURPOSES.

The aggregate work of the Disintegrator now in use amounts to upwards of two millions of tons of material pulverised by them in a year, at a total saving to their users, in labour, power, &c., of above £30,000 per annum. It bears no resemblance whatever to any other mill in its peculiar combination and application of principles, nor yet in its mode of action and unique system of disintegrating matter, and has been proved to be the most novel, versatile, and efficient discovery in mills that has appeared since the invention of the flour-mill, upwards of thirty-three centuries ago.

An illustrated pamphlet, with full particulars of the above, and a long list of the addresses of its purchasers, will be forwarded, post free, on application to the Patentee, as below; and a 4-foot machine and model may be seen at the Paris Exhibition, British Section, Class 51.

THOMAS CARR, MONTPELIER, BRISTOL.

INDIA-RUBBER, GUTTA-PERCHA, AND TELEGRAPH WORKS COMPANY (LIMITED), MANUFACTURERS OF VULCANISED INDIA-RUBBER.

BUFFER SPRINGS for LOCOMOTIVES and RAILWAY TRUCKS, VALVES, SHEET, WASHERS, SUCTION and DELIVERY HOSE, TUBING for GAS, &c., MACHINE BELTING, ELASTIC STEAM PACKING in ROPE, SHEET, and RINGS, &c., &c.

Ebonite, SHEET, PUMPS, TAPS, TUBING, &c., for acids and vinegar; PHOTOGRAPHIC and SURGICAL ARTICLES, SPEAKING TUBING, &c.

GUTTA-PERCHA, SHEET, TUBING, PUMP BUCKETS, VALVES, MACHINE BELTING; VESSELS for chemicals and acids, &c.; WATERPROOF CLOTHING, HOT-WATER CUSHIONS, MATTING, GROUND SHEETS, APRONS, WAGON COVERS, &c., &c.

TELEGRAPH INSTRUMENTS, INSULATORS, BATTERIES, INSULATED WIRE, and every description of TELEGRAPH APPARATUS and STORES.

Vulcanised India-rubber specially prepared to withstand the action of Tropical climates. WORKS, SILVERTOWN, ESSEX.

BAGILLT OIL COMPANY (LIMITED), FLINT.

MANUFACTURERS OF BLACK GREASE FOR COLLIERY WIRE ROPES, TRAMS, WAGONS, &c., £5 PER TON. TORCH AND LAMP OIL, 1*s.* PER GALLON (Casks free).

LUBRICATING OIL, 1*s.* PER GALLON (Casks free).

BOWLING IRON COMPANY, BRADFORD, YORKSHIRE.

BEST CRUCIBLE CAST-STEEL TYRES, AXLES, CRANK AXLES, BOILER PLATES.

Also COG WHEELS, and other CASTINGS.

This company is prepared to furnish the above-mentioned articles in CAST STEEL of a very superior quality, made principally from their own well-known

"BOWLING IRON."

Also BOWLING WROUGHT-IRON SOLID WELDLESS TYRES, of any size and to any section.

PATENT FLEXIBLE TUBING, AND BRACTICE CLOTH FOR MINES,

MANUFACTURED BY ELLIS LEVER,

PATENTEE, WEST GORTON WORKS, MANCHESTER.

TO COLLIERIES PROPRIETORS.

BEST CHARCOAL IRON AND STEEL WIRE ROPES.

Also HEMP ROPES, for MINING PURPOSES.

ELLIS LEVER, WEST GORTON WORKS, MANCHESTER.

THE CORNWALL BLASTING POWDER COMPANY, ST. ALLEN GUNPOWDER MILLS, TRURO,

MANUFACTURERS of PATENT BLASTING POWDER, ORDINARY GUNPOWDER, and WATERPROOF SAFETY BLASTING CARTRIDGES.

THE CORNWALL BLASTING POWDER COMPANY SOLICIT PARTICULAR ATTENTION to their PATENT BLASTING POWDER, which has now been fully tested by time, and the growing estimation in which it is held by working men proves its great superiority over ordinary gunpowder.

It possesses the following advantages:—

1. It WEIGHS about TWENTY-FIVE PER CENT. LESS than ORDINARY GUNPOWDER, and EQUAL in STRENGTH, bulk for bulk, an IMPORTANT SAVING is EFFECTED on the score of CONSUMPTION.

It creates, on explosion, only about ONE-HALF as much SMOKE as ORDINARY GUNPOWDER, and this smoke being of a lighter nature soon passes away, and an IMPORTANT SAVING is thus EFFECTED on the score of TIME.

It is ADAPTED to ANY CLIMATE, DOES NOT BECOME WASTEFUL by EXPOSURE to the ATMOSPHERE, is NOT MORE DANGEROUS in use than ORDINARY GUNPOWDER.

Testimonials forwarded on application.

BASTIER'S CHAIN PUMP.

This patent pump is the MOST EFFICIENT in existence for LIFTING ANY QUANTITY of WATER from ANY DEPTH. One lifting from a depth of 170 ft. may be seen at work daily, on application to the

SOLE LICENSEES.

MESSRS. J. JACKSON AND CO., ENGINEERS, 17, GRACECHURCH STREET, LONDON, E.C.

Who SUPPLY PUMPS and LICENCES.

Communications to Mr. Bastier, the patentee, to be sent to the same address.

AGENT FOR THE COUNTIES OF NORTHUMBERLAND AND DURHAM, YORKSHIRE, DERBYSHIRE, and NORFOLK STAFFORDSHIRE.

MR. THOMAS GREENER, MINING OFFICE, NORTHGATE, DARLINGTON.

AGENTS for SCOTLAND.

MESSRS. P. and W. MACLELLAN, 127 and 129, TRONGATE, GLASGOW.

## THE SEACOMBE FORGE RIVET AND BOLT COMPANY.

MANUFACTURERS OF BOLTS RIVETS, WASHERS, COACH SCREWS, SPIKES, SET PINS, TIE RODS, COTTER PINS, &c.

ALSO, ENGINEERS' AND SHIPBUILDERS' FORGINGS, SMITHS' WORK, and every description of SHIPS' FASTENINGS.

## Mining Correspondence.

## BRITISH MINES.

**BEDFORD UNITED.**—Jas. Phillips, July 3: Our stops throughout the mine are yielding about the same quantity of ore as for some time past. We shall take down the lode in the different levels on the north lode, and give a full report next week.

**BEDOL-AURE.**—H. R. Harvey, July 3: The 100 yard level, driving east, is progressing satisfactorily. The Seven Stars winze continues unfavourable for sinking, and the lode is poor. Jones's pitch is yielding 15 cts. of lead ore per fathom. Edwards's pitch has improved, and will now produce  $\frac{1}{2}$  ton of lead ore per fathom. The other parts of the mine are without alteration.

**BLACK CRAIG CONSOLS.**—J. Smitham, July 4: In a day or two we shall get the cistern-plat below the 54 cut, and commence the beaver holes. I am daily expecting to get through to the lead ground in Harriet's cross-cut, driving north in the 54. The lead course in the 54, east of No. 1 cross-cut, is split into two parts; we are driving on the south one at present, which is producing about 10 cts. of lead per fm. In we will prove the north part of the lode when we get forth a little further. I have stopped the 54 driving west from No. 3 cross-cut, and put the men to strip down the east side of the said cross-cut, where we have some good branches of lead and spar. We are still getting bits of lead in No. 3 cross-cut driving north in the 54 west, but not to value. The stops are producing from 15 to 20 cts. of lead per fm. We shall get from 15 to 19 tons of lead in the house by to-morrow evening.

**BOTTLE HILL.**—J. Eddy, July 4: Friday last, being our setting-day, the following bargains were set.—Main Lode: A stop in the back of the 24, to four men at 5s. per fathom; lode about 5 feet wide, and worth about 47 per fathom. A tribute pitch in back of the 12, east of the new shaft, to four men at 13s. 4d. per fm.; tributaries to pay all cost for dressing.—South Lode: Set to four men to drive the 12, west of cross-cut, where the lode is about 2 feet wide, and producing both tin and copper ore, but not sufficient of either to value; price for driving 37 per fathom. Also a pitch to three men, in the back of the 12, at 13s. In 11. I am happy to state that we have had a moderate supply of water, both for drawing and stamping, since Monday last; we are now working again with spirit. I hope to send samples of our parcels of tin to the different smelters one day in the coming week.

**BORNFLOYD UNITED.**—Thos. Kemp, July 3: Settings for July: The stop under the 52 to ten men, at 6s. per cubic fathom; lode worth from  $\frac{1}{2}$  to 3 tons of lead ore per fm. The stop west of winze in back of the 52 to four men, at 5s. per cubic fathom; the lode has improved at this point, and is now worth 20 cts. of ore per fm. The stop east of winze, in the same level, to four men, at 5s.; lode worth 12 cts. of ore per fm. The new shaft is down 9 fms. 3 ft. under the 52; the ground is of the same character as before reported. The surface operations are progressing satisfactorily. I shall ship the ore on Saturday.

**BRYN GWOIG.**—S. Harper, July 3: The lode in the 102, east of engine-shaft, is about 3 feet wide, composed of spar, blend, and a little lead ore, but not to value. We have put the shaftmen to resume the sinking of the winze in bottom of this level (102); the lode is about 10 ft. wide, but we shall only carry about 6 ft. of the north part, which is worth about 2 tons per fathom. The pitch in bottom of this level I have suspended for a time, and put the men to carry on the level west solely on tribute, the lode being worth 4 tons per fathom. The lode in the 90, west of engine-shaft, and west of No. 1 winze, is about 2 ft. wide, worth 2 tons per fathom. The lode in No. 1 winze, in bottom of this level, is 5 ft. wide, worth  $\frac{1}{2}$  tons per fathom. The Nos. 1 and 2 pitches in back of this level continue much the same as for some time past. The lode in the 90, east from No. 3 winze, is 1 ft. wide, worth  $\frac{1}{2}$  ton per fathom, and promises further improvement soon. The lode in the 66, east of engine-shaft, is in a disordered state, being intermixed with the shale bed; of course we do not expect to meet with great results at this level until we reach under the lead-bearing ground. Brumwell's shaftmen have been engaged for the past week or ten days in putting in stalls, clearing their stuff, and also doing sundry necessary surface work, fixing pit-head, &c., consequently little has been done in the sinking of the shaft since my last report. There has been a slight falling off of late in two or three of our old pitches, others continue to yield their usual quantities of lead. I have a pair of men drawing water from the bottom of the 66 west, near the old engine-shaft. From present appearances the old party must have had a course of ore 20 fms. in length. The lode we have seen looks very rich, being composed of nice spar, intermixed with fine knots of lead ore; this part of the mine has been at rest for the last forty-five years, being wrought at that time by the old-fashioned wooden pumps, which were then quite sufficient to meet the supply of water. This information I received from their agents; and now an old man, of 75 years of age, states that there is a good lode in these bottoms, which, if possible, we are determined to develop.

**CAPE CORNWALL.**—R. Pryor, W. White, July 3: The lode in the 100, east of engine-shaft, is improving in its appearance and character, and producing stones of tin; a still further improvement may be expected at this point, it being near the granite. The lode in the stopes in back of the 90, east of shaft, has a little improved, and now worth 5s. per fathom. The lode in the 70, west of the shaft, is large, and yielding fine stones of yellow copper ore.

**CARADON CONSOLS.**—S. Bennett, July 2: The lode in the 90 west continues to produce a little ore, but not sufficient to value, the ground too being somewhat harder—very similar to the last 3 to 4 fms. in the winze just behind the end. Both the ground as well as the ore has evidently a weathered dip, and the ore we have seen so far in this level is no doubt a continuation of that seen in the 80, east of the cross-course; and, consequently, some fathoms further will have to be driven west to meet with the same run of ore ground in the 90 as was passed through in the 80 west; this appears very clearly in the stopes over that level. The 80 west continues unproductive. The ground in the rise is improved, and that in the shaft just as before.

**CARGOLL.**—R. Tyzzer, July 3: At Michell's (the 140) we are cutting plat at the north end of shaft; the lode is 3 ft. wide, yielding good work for lead ore and blends. The lode in the 130 south is 4 ft. wide, producing good work for lead ore, pretty much blends, and occasional stones of copper ore. The north end of this level is producing about 16 cts. of lead ore per fm., and the stopes in the back of the south end are yielding 1 ton of lead ore per fm. The 90 fm. level end, south from Michell's, is yielding a small leader of lead ore. We have no change to report in the north part of the mine.

**CLARA UNITED (Llywernog).**—J. Davis, July 3: The water is all out of the pond, the machinery is idle, and the water in the mine up nearly to the roof of the 50, but there are 14 men working yet. The settings for July are as follows:—The stop (No. 3) in the back of the 50 to six men, at 6s. per fm.; value for lead 25 cts. per fm. The stop in the back of the 40 to four men, at 6s. per fm., value for lead 15 cts. per fm. The winze under the same level to four men, at 14s. per fm.; value for lead 15 cts. per fm. We have about 3 fms. more of this winze to sink to communicate with No. 3 stop.

**CROWAN AND WENDRON.**—R. Reynolds, July 2: The lode in the shaft sinking below the adit is still holding good. No change to report on in the winze. I hope by the end of the week the adit on the south lode will be cleared in as far as the eastern shaft.

**DALE.**—R. Nineham, June 29: We are not yet through the vein in the 44 fathom level cross-cut. The 32 men are now engaged sending down the new pitwork.

**DEVON AND CORNWALL UNITED.**—T. Neill, July 2: The stopes in the bottom of the deep adit will produce 4 tons of ore per fathom.—William and Mary: We have no change in any of the ends or pitches to notice.

**EAST BOTTLE HILL.**—J. Eddy, July 4: The lode in the end in the 10, east of the western shaft, is from 3 to 4 ft. wide, composed of gossan, mudi, capel, and occasionally rich squares of tin; but so far in driving we have found it not lasting.

The ground is easy for working, now driving at 5s. per fathom. Judging from the character of the lode now in the end, we may expect a speedy improvement in the lode in driving east. The lode in the stop behind the present end is about the same size, and turning out some good work for tin. For the last fortnight we have been very short of water for stamping our tinstuff now at surface, but I am happy to say that we have now a moderate supply.

**EAST CHIVERTON.**—J. Grose, J. Nancarrow, June 29: In consequence of

meeting with a branch in Bartlett's shaft, the water has increased so much that we have been obliged to suspend the sinking of the same until we get the flat-rods ready to attach to the engine, which we hope to complete within a fortnight. The men are working day and night about surface work towards getting the engine to work as soon as possible; when this is done we hope to be able to sink faster, and at a cheaper rate. The shaft is now down from surface 23 fms., and in a little further sinking we shall intersect the lode that has been so rich in West Chiverton, and which is so now also in Chiverton Moor and Wheal Chiverton; and, looking at the channel of ground in the bottom of our shaft, there appears every prospect of meeting with a productive silver-lead lode at this depth.

**EAST GUNNISLAKE AND SOUTH BEDFORD.**—J. Phillips, July 4: In the 54, west of Gard's shaft, we have not yet met with the lode on the western side of the cross-course, which we find has a more easterly bearing than in the 36; consequently, the displacement may be rather greater at this point. In the shallow adit, east of Gard's shaft, we have been driving by the side of the leader during the past week; we have to-day pricked into it about 6 in., and find good work. We have cut a very kindly and promising lode (the Impah) on the opposite side of the river, in the East Gunnislake shaft; the gossan part is 2 feet wide, and we consider it a very valuable discovery.

**EAST NEPTUNE.**—P. Floyd, July 4: Hosking's shaft is now down 5 fms. 5 ft. below the 15; ground favourable, and quite congenial for mineral. The winze sinking below the 15, from present appearances of ground and branches met with, presents good indications that the lode when cut at the 25 will prove productive, and this, it is expected, will be done in the course of a month. Other operations are progressing satisfactorily.

**EAST ROSEWARNE.**—C. Glasson, July 4: In King's shaft, sinking below the 55, the lode is very much the same as reported last week, worth 5s. per fathom. There is no change to notice in the 95, west of King's shaft, since my last report. In the 95, east of King's shaft, the lode is 10 in. wide, worth 4s. per fm.; we are putting up a rise in the back of this level to communicate with the 85, to ventilate the bottom of the mine; the lode is now worth 5s. per fm. In the 85, west of King's shaft, the lode is 18 in. wide, worth 6s. per fm.

**EAST SNAEFELL.**—W. H. Rowe, July 3: The lode in the 15 forehead, though still unproductive, has now taken its proper or average bearing, which I am glad to see, as it shows we are at last quite clear of the disturbed and disordered ground so unexpectedly met with on driving out from the shaft. The quartz now coming into the lode is a better kind than of late. In the 9, under adit, we have a rich branch of lead, mixed with gossan and quartz. So far, it appears to take a very horizontal angle, indicating we have a greater distance to drive at the 15 than I judged before we get up with this run of ground; but we shall know more of this very shortly.

**EAST ST. JUST UNITED.**—R. Pryor, R. P. Goldsworthy, R. Wearne, July 3: Eastern Mine—Phillip's Engine-shaft: The plat is completed at the 20; the men are now engaged taking down ground at the east end of the shaft preparatory to fixing the plunger bottom.—Agaworth Lode: The 20, east of the Guide, is of a promising character; ground favourable.—Western Mine: The lode in the 90, west from Saveall's engine-shaft, is worth 12s. per fm. The lode in the 90 east is worth 16s. per fm. In the 76, west from Saveall's, the lode is improved, and now worth 7s. per fm. The lode in the 62 fm. level stripe is without change to notice.—Buck Lode: In the 62, driving east, the lode is without change.—Owl Lode: The lode in the 40, north from Reddipper shaft, is opening up tribute ground. The lode in the 20, north from West Buck shaft, is not looking quite so well, being rather disordered. The lode in the 20, south from Saveall's, is looking promising, and ground favourable. The 10, north from West Buck shaft, is worth 7s. per fm. In the adit, north from same shaft, the lode is worth 4s. per fm.—North Lode: The lode in the 40 east is without change. This remark will also apply to the 20 east.—Reddipper Lode: The lode in the 20 east is producing a little tin, a very kindly lode.

**EAST WHEAL GRENVILLE.**—G. R. Odgers, W. Bennett, July 3: The lode in the engine-shaft, sinking below the 95 fm. level, is from 18 in. to 2 ft. wide, of quartz, peach, and flookan, containing ore and tin—a most promising lode, having all the characteristics of the lode just preceding the ore in the upper levels. The lode in the 95 fm. level west is 2 ft. wide, worth 2 tons of good ore to the fathom, and looking kindly for a further improvement. The lode in the stop above the level is worth 2 tons of ore to the fathom. All the other places are much the same as last reported.

**EAST WHEAL RUSSELL.**—J. Goldsworthy, July 3: Homershams's shaft, in Maynard's cross-cut, driving north, the main or middle lode is intersected and cut into about 2 ft.; so far as seen it is composed of capel, quartz, iron, and mudic, and water flowing freely, which at present renders the progress rather slow. In Ede's cross-cut, in the 140 north, the lode has been cut into about 10 ft. in the furthest point reached, which is composed of capel, quartz, and iron, spotted with malleable and grey sulphuret of copper ore, and spare to explore. In the 140, driving east, the lode is  $\frac{1}{2}$  ft. wide, composed of capel, quartz, and iron, mundic, and produces  $\frac{1}{2}$  ton of tin per fathom, or worth 2s. per fm. In the stop in back of the 140, east of Friend's winze, the lode is worth 4s. per fathom. In Davey's cross-cut, driving north in the 130, the stratum is easier, and highly mineralised—good progress is made.

**FRANK MILLS.**—J. P. Nicholls, John Cornish, F. Cornish, July 3: The east lode, in the 145 north, is at present disordered, and only yielding a small quantity of lead ore; the ground, however, is very congenial. In the 145 cross-cut west we have intersected and gone through a part of a lode, which is 2 ft. wide, consisting of quartz and good squares of lead ore. We are still passing through branches containing good stones of lead ore and mundic, and of a most promising description. The stop in back of this level is yielding  $\frac{1}{2}$  ton of lead ore per fathom. The 130 north, on east lode, is unproductive of lead ore to value. The 130, north, on west lode, is yielding saying work occasionally, and presenting a good appearance for an early improvement. The two stopes in back of this level are each yielding  $\frac{1}{2}$  ton of lead ore per fathom.

**GAWTON COPPER.**—G. Rowe, G. Rowe, Jun., June 29: There is no change in the appearance of the ground in the 70 fm. level cross-cut, and our usual good progress in driving towards the lode is being made. The lode in the 60 west is showing indications of improvement, being now worth 2 tons of ore per fathom. The lode in the 60 east is 5 ft. wide, of a most promising character, being composed of capel, spar, mundic, and ore. The lode in the rise in back of this level is worth 5 tons of ore per fathom. The 50 fm. level cross-cut south, going through the capels of the lode, is progressing very satisfactorily, considering the hard nature and character of the ground. We have for the last few days discontinued the drivage of the 50 fm. level west from Moor's winze, and placed the men to open on the north side of the drivage, in order to facilitate the communication with the 50 fm. level cross-cut, which we hope to effect in the course of next week. Our last sampling of copper ore weighed of yesterday 132 tons 7 cwt.

**GOTHIC.**—J. Lester, July 4: In the engine-shaft the lead continues to increase, the 12 fm. level end is 10 ft. wide, and the 10 fm. level end is 12 ft. wide.

**GREAT LAXEY.**—J. Barkell, July 2: There is nothing new to report in the 220, nor in the 210. The lode in the 200 fathom level end is improving as we go north, now worth 30s. per fm., and we anticipate further improvements as we approach the ore ground going down in the sole of the 190. The lode in the 190 fm. level end, driving north continues to look well, and is opening out rich ore ground, worth for lead and blends from 100s. to 120s. per fathom. We have stopped the 190 fm. level end, driving south to call for any remark on them. We are hoping this will improve when we get a little more below the slide which disordered the lode. No other change to notice.

**NEW BIRCH TOR AND VITIFER CONSOLS.**—Wm. Skewis, June 2: North Lode—Hambley's Shaft: In the 45 east the lode is rather improved, worth 31s. per fathom, and I am hoping that this end will still further improve. The men are making fair progress in cutting down the new shaft, and will, I believe, complete it in the time stated in last report—with a month. The main lode, in the 12 west, is 2 ft. wide, composed of quartz, iron, and tin; from its size and character we look forward to good discoveries in this direction. There is no particular change in the pitches to call for any remark on them. We sold, on Tappet last day, 8 tons 7 cwt. 1 gr. 8 lbs. of the realising 341s. 2s. 4d.

**NEW CROW HILL.**—Wm. Trelease, July 2: The ground in the 70 east is a little harder this week, but good progress is being made in the driving.

**NEW NORTH DOWNS.**—William Rich, Cornelius Bawden, July 3: We have

which has been cleared and secured 400 fathoms, and drains the water 12 fathoms deep.—Main Lode: The engine-shaft is sunk on this lode 18 fathoms below the adit. The only levels driven are the adit and the 12 fathom level. The lode is worked from adit to surface for 20 fms. long, and, probably, for a much greater length. There is tin gone below the level, 12 fathoms east of the shaft, and has passed pay for working. The 12 is driven 5 fathoms east of the shaft, and has passed through the ground that has been stoned in the back; the end yields tin to ear, and should be driven under the tin gone below the adit. The 12 fathom level is last 50 fathoms have generally been through tin ground, sometimes worth 4s. to 5s. per fathom, and may be worked on tribute. The lode split 12 fathoms before the end reached the cross-course; there is a bunch of tin on the north part. The lode being pushed on in that direction, and will intersect both parts within a month, and Middle Lode: This is 9 fms. north of the main lode. The back of the adit is nearly all taken away for 100 fms. long, but it is not worked below, except that a cross-cut is put into it at the 12 fm. level, 25 fms. west of the engine-shaft, and 3 fms. driven east on west, where there is tin that will half pay for driving. This level should at once be driven westward under the tin ground in the adit. The flat-rod lode, 20 fms. north of the main lode, is worked extensively above the adit, and the shaft sunk is fathoms below, where the lode has a strong appearance, and yields good stones of tin. The north lode is 70 fms. north of the flat-rod lode; it has yielded tin in the eastern part of the set, and could soon be laid open by a cross-cut, which is already cleared 30 fms. towards it. Cambellack lode is 50 fms. south of the main lode, is said to be stoned in the adit, and to have been very productive. The adit is driven southward, under the lode, 20 fms. of which are nearly cleared, and the whole is likely to be cleared and secured in two months. This is a good speculation, not only because of the productive character of the lode here, but it is a fine tin-bearing lode in the Tregantle sett, immediately to the east. This is a most inviting field for mining enterprise, for there are several lodes which have been rich in neighbouring mines, and here are intersected by cross-courses, and embedded in the strata in which they have been found to be profitable. The water is very little, the sole cost for working the engine not exceeding 20s. per month. Above all, it is one of the richest tin districts in Cornwall, and similar success to that met with in the neighbouring mines is every way likely to be realised here.

**MARKE VALLEY.**—J. Truscott, June 25: The ground at Salisbury shaft, sinking below the 124, has a little improved.—Marke's Lode: In the 112 east the adit, the lode will yield 2 tons of copper ore per fm. In the 112 west the lode will yield from 1 to 2 tons of copper ore per fm.—Rosedown Lode: In the 90 west the lode will yield 1 ton per fm. In the 90 west the lode will yield 1 ton per fm. In the 70 west the lode will yield 3 tons per fm. In the 60 west the lode will yield from 1 to 2 tons per fm. In the 50 west the lode is worth 4 tons per fm. The stopes continue to yield their usual quantities of ore.

**MINERA UNION.**—W. T. Harris, July 4: Operations throughout the mine are making satisfactory progress, but without any alteration since last report.

**NANGLES.**—J. Rowe, July 4: The lode in the 130, west of the engine-shaft is  $\frac{1}{2}$  feet wide, producing good stones of ore; the lode is improving in appearance. We are expecting to meet with ore in paying quantities in this end shortly; the end is now about 5 fms. short of the perpendicular of the 130, where we first met with a good lode. The lode in the 130 is  $\frac{1}{2}$  feet wide, and improved; it is worth 30s. per fathom, a very good looking lode, but rather difficult to drive. We have six men driving, at 10s. per fathom. The slope in the 130 is 12 ft. wide, worth 12s. per fathom, price for toping 37 per fathom. The lode in the sump-winze is producing good stones of ore. We are hoping this will improve when we get a little more below the slide which disordered the lode. No other change to notice.

lode in the 120 west end is worth 14*l.* per fathom, for 6 feet wide, and no north wall. The stops in the back and bottom of this level are worth as last reported—15*l.* and 30*l.* per fm., respectively. The lode in the 120 west rise is worth 14*l.* per fm. The lode in the 100 fm. level east end is worth 8*l.* per fathom.—Cobbler's: The lode in the 110 fm. level east end is worth 8*l.* per fathom. The lode in the 110 fm. level west end is worth 14*l.* per fathom, for 6 ft. wide, and no south wall. The pitches here are turning out well. In the 90 fm. level north cross-cut nothing of importance has been intersected since last report; there is much water coming from the end. The 90 west, on north lode is worth 8*l.* per fathom, and a large stream of water issuing from the ends. Tin sold, 9 tons 11 cwt.s. 2 qrs. 27 lbs., at 52*l.* per ton, 508*l.* 2*s.* 3*d.*; carriage, 7*s.* per ton—19*t.* total, 509*l.* 1*s.* 3*d.*

PENHALLE VOR.—W. H. Martin, July 4: At our pay, on Friday last, the following bargains were set:—Sanford's shaft to sink below the 84, the lode is 2 ft. wide, and produces a good van of tin. The 38 to 1 fm., at 16*l.*; the lode is 1 ft. wide, and worth 8*l.* per fathom. The 179 is 10 inches drive east from Battye's shaft, on south lode, at 4*l.* per fm., which is 10 inches wide, and producing stamping work. A rise in the back of the 38, on the same lode, at 4*l.* per fm., and 13*s.* 4*d.* tribute on all tin; the lode is 18 in. wide, and lode, at 4*l.* per fm. The 26 to drive east from Battye's shaft, on south lode, at 8*l.* per fm.; in the present end a cross branch has disordered the lode, which is now worth 8*l.* per fm. for tin. A stop in the back of the 26, at 2*t.* 10*s.* per fm.; the lode is 18 in. wide, and worth 10*l.* per fm. A stop in the bottom of the 26, east of winze, at 2*t.* 10*s.* per fm.; the lode is 1 ft. wide, and worth 8*l.* per fm. We have cut the south lode in the cross-cut driving south from Battye's shaft, in the 10, and have put the men to drive east and west on the course of the lode, to drive south in the 74, from Hollingsworth's shaft, at 7*s.* per fm.; we have driven over the distance further than expected, and are daily expecting to cut the lode. We set the usual number of tribute pitches.

PRINCE OF WALES.—J. Gifford, W. Vivian, July 1: On Saturday last the following bargains were set:—To drive the 45 east, by four men, ston the month, at 4*l.* per fm.; the lode is 2 ft. wide, and produces a good van of tin. The 38 to 1 fm., by four men, ston the month, at 2*t.* 5*s.*; the lode is worth 10*l.* per fm. To rise and stop in back of the 45 west, by six men, stent 4*s.* fm., at 4*l.* per fm.; lode 3*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 45 west, by four men, stent 1*s.* fm., at 12*s.* per fm.; lode 6*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 55 east, by six men, stent 2*s.* fm., at 8*l.* per fm.; the lode at present is 3*t.* 6*s.* wide, worth 40*l.* per fathom. No. 1 stop, in back of the 55 east, west of the 45 east, by four men, stent the month, at 2*t.* 15*s.* per fm.; lode worth 20*l.* per fm. One stop west of winze, by six men, at 2*t.* 15*s.* per fm.; worth 30*l.* per fm. One stop east of winze, by six men, at 2*t.* 15*s.* per fm.; worth 30*l.* per fm. To drive the 55 west, on the south part of lode, by six men, stent 1*s.* fm., at 8*l.* per fm.; the lode altogether 6*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 55 cross-cut, north, by six men, stent the month, at 7*t.* 10*s.* per fm.

PROSPER UNITED.—J. Nicholls, John Hall, Wm. Glanville, July 4: Hand's shaft is down nearly 100 fm. below the 90; the ground by the side of the lode is highly mineralised, but we have not as yet cut into the lode. The lode in the 90 west is disordered by the slide; we expect it will soon improve, as there is a good lode gone down from the 80 just in advance of the 90. The 80 west is producing good stones of ore. The 70 east is unproductive. The 50 east is producing 2 tons of ore per fm. The 40 east is producing saving work. The winze in bottom of the 70 is producing 3 tons of ore per fm. The 90 fm. level stopes are worth 12*l.* per fm. The 80 fm. level stopes are worth 10*l.* per fm. The 70 fm. level stopes are worth 8*l.* per fm., and the 50 fm. level stopes are worth 10*l.* per fm. The lodes are producing much the same as for some time past.

REDMOOR.—Thomas Taylor, July 3: We have no change in the cross-cuts as yet; the ground contains a deal of mudiic in small branches. I have been expecting to have reached one or other of the lodes for some fathoms; the cross-course must have made a great heave; however, the ground is good, and when cut do not find them productive.

ROSECLIFF AND TOLCARNE.—R. Pryor, J. Phillips, July 3: The ground in the 50 cross-cut, north of Lindo's engine-shaft, continues much the same, but we have to-day met with a breast-head, inside of which we think it will be more favourable for driving. The lode in the stopes in back of the 30 east, on No. 4 lode, is a little improved, and is likely shortly to resume its former value. We are still cross-cutting at the 30, west of great flockan, but have not as yet cut No. 4 lode. All other work is progressing satisfactorily, and the engine is working well.

ROSEWALL HILL AND RANSOM.—R. F. Treweek, July 4: The lode in the 85 fm. level south, on the carbona course, is worth 20*l.* per fathom. The lode in the 90 fm. level, same direction, driving by twelve men, at 19*l.* per fathom, is extended 11 fm. from the standard lode, and worth 80*l.* per fathom. The lode in the 100 south, on the cross-course, is disordered by broken ground, but I anticipate an alteration for the better daily. The lode in the 100 fm. level east, on the standard, is worth 8*l.* per fathom. The stopes in the 85, 90, and 100 fm. levels, on the Carbona, are of the same value as reported on June 4, 60*l.*, 50*l.*, and 50*l.* per fathom. The Carbona, at the 60 fm. level, is worth 50*l.* per fathom.—Engine-shaft: The 170 fm. level is communicated with the 180 fm. level by a winze sunk under the former level, at about which point the lode is worth 25*l.* per fathom. The western part of the mine is now in full working order, and there is every prospect of its producing the quantity of tin estimated.

ROSEWARNE CONSOLS.—J. Nancarrow, R. Nuckey, July 1: The 80, and all the levels above, are driven from Ellen's shaft east to the boundary, and all the valuable ore ground discovered is stoned away. There are two pitches, one at the 60 and at the other at the 20, working at 13*s.* 4*d.* in. The 90 west is near the boundary, and is poor; all the ore ground in the back is taken away. The 100 is driven 46 fathoms east of Ellen's, and would have further advanced, but the ground before last month was hard, and the water has hindered us a little. We have kept eight men in the end, and have done all we could to get it on as fast as possible. This level throughout has been poor, but we expected before this time to have got into the run of ore ground dipping westward from Rosewarne United, and still there is a very good chance of success here, for the ground in the end is most congenial for ore, and there are yet 14 fathoms to reach the boundary. The 80 is driven 12*s.* fathoms west of the engine-shaft; here we have recently passed through a very good-looking lode for several fathoms in length, which has varied from 1 to 3 feet in width, and has yielded a few tons of ore, but has not held up far in the back. The lode goes below the level is worth 5*l.* per fathom. The 70 is driven 12*s.* fathoms west of the engine-shaft. The lode has in many places presented a very promising appearance, but has not hitherto yielded any ore to value. From the direction of these ends, it will be further to the caunter than we anticipated, and it appears there are from 15 to 20 fathoms yet to reach it, which may be driven in two months if the ground continues as we have recently had it. There is a great deal of water coming from the ends, which gives evidence of a porous lode before us, and in driving them there is a great chance of a discovery, as it is very likely that a good deposit of ore will be met with at the junction of the lode and the caunter, especially as there is one beyond it. There are two pitches working for tin a few fathoms below the surface in the elvan course, in the north part of the set, at 15*s.* in 1*t.*, and the men appear to be getting fair wages. It will be seen by the report that the mine is not yet proved, and as (from present appearance) it can be done in three months, and with a small outlay, and there is such a prospect of success, we strongly recommend the driving of the 100 east to the boundary, and the 70 and 80 to the caunter.

ROSEWARNE UNITED.—Thomas Richards and Son, July 4: The lode in the 90 fm. level is now unproductive. The 80 west is worth 8*l.* per fathom for copper ore. The lode in the 60, east of cross-cut, on the north part, contains a little good copper ore, and is opening tribute ground. The 40, east of cross-cut, on the north lode, is worth 4*l.* per fathom.

SORTBRIDGE CONSOLS.—R. Jackson, July 4: Hitchins's engine-shaft is in regular course of sinking below the 13*s.*; the ground is favourable, and good progress is being made. In the 55, east of Axford's pitch, the lode is 8 ft. wide, and worth 1 ton of ore per fathom. No other change.

SOUTH CONDURROW.—J. Vivian and Son, W. Williams, June 29: The samples have been casing and dividing King's shaft from the 61 to the 71 fm. level, and everything is now complete for continuing the driving of the 71 fm. level east and west. In the 61, east of King's shaft, we have been meeting with stones of yellow copper ore; in driving north, on the cross-course, we have easy ground. In the 61, west of King's shaft, the lode is 4 ft. wide, and producing tin sufficient to pay for driving, accompanied with native copper and grey copper ore. In the 51, west of King's shaft, the lode is becoming more favourable in composition, containing less granite, and increasing in size. The stop in the back of the last-named level continues to produce copper ore, worth 13*l.* per fm. In the 40, west of Vivian's shaft, the lode contains a great deal of mudiic, but in other respects is unaltered. In the 30, west of Vivian's shaft, the lode continues to produce copper ore occasionally, and is without alteration. We are making good progress in sinking old Tyre shaft.

SOUTH DARREN.—J. Boundy, July 1: Setting Report: The 60 to drive west by six men, at 10*l.* per fathom; the lode is 2*t.* 6*s.* wide, containing good lead and copper ore, valued at 16*l.* per fathom, and from its appearance I anticipate an early improvement.

The 50 to drive west by six men, at 9*l.* per fathom; the lode is 2*t.* 6*s.* wide, and has a very fine appearance, it contains good lead and copper ore, and is worth 13*l.* per fathom. To stop the back over this level by six men, at 8*l.* per fathom; the lode is 3 ft. wide, worth for lead and copper ore. To stop the back over this level, east from ditto, by eight men, at 8*l.* per fathom; the lode is 3*t.* 6*s.* wide, worth for lead and copper 16*l.* per fathom. To stop the back over this level east from the winze by four men, at 7*l.* per fathom; the lode is 3 feet wide, worth for lead and copper 11*l.* per fm. To stop the back over the 40 west by six men, at 8*l.* per fathom; the lode is 3*t.* 6*s.* wide, worth for lead and copper 16*l.* per fathom. To stop the back over this level, east from ditto, by four men, at 7*l.* per fathom; the lode is 2*t.* 6*s.* wide, worth for lead and copper 12*l.* per fathom. To stop the back over this level by two men, at 7*l.* per fathom; the lode is 20 in. wide, worth 8*l.* per fm. The 30 to drive west by four men, at 7*l.* 10*s.* per fathom; the lode is 2*t.* 6*s.* wide, containing a little lead and copper, and promises an improvement. The shallow level to drive east by two men, at 6*l.* 1*s.* per fathom; the lode at present is rather small, with spots of lead and copper ore, but from the appearance I am of opinion that there will be an improvement. Good progress is being made in sinking the winze below the 50 west. All other operations going on well.

SOUTH HERDFOOT.—Wm. Goldsworthy, July 4: We have not seen anything of the lode north of the slide in the 86 fathom level yet. The ground continues very favourable for mineral, so we hope to cut it again shortly.

SOUTH WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, June 29: Setting Report: The engine-shaft to sink at the same price as before, the men having taken the lift at 23*s.* per fathom; the lode is from 15 to 18 in. wide, containing mudiic, 2*t.* wide, containing stones of ore—a very promising lode. A winze to sink below this level in the rise by four men, at 4*l.* per fathom; this is being done for ventilation.

ST. IVES WHEAL ALLEN.—J. Nancarrow, J. Daniell, July 3: The Carbona north and south, but the principal part goes down, and yields some very rich grey copper ore and strong arsenical mudiic, which appears to be the precursors of a rich batch of tin. In driving east of Richards's we have a fine strong lode, which contains a little tin. The ground looks rather better for driving.

TREWEATHA.—Thomas Foote, John Soobie, July 3: The lode in the 50 south is 3 feet wide, composed of prian, quartz, and lead, of the latter producing 8 cwt.s. per fathom. The stop in the back of this level is producing 5 cwt.s. of lead per fm. We have placed the 50 fathom level endmen south, to cut tip-tail in and less cost; this will not take more than about a week, when the end will be resumed driving. The lode is not yet commenced driving the 50 north, neither shall we do so until the plat is finished.

We have commenced driving the 40 north; the lode is divided by a horse of killas, and at present is unproductive. The lode in the 50 south is

2 feet wide, producing saving work, but the ground at present is hard for progress. The stop in the back of this level is producing 5 cwt.s. of lead per fathom. The lode in the 30 north is 2*t.* 6*s.* wide, worth 3 cwt.s. of lead per fathom, and the ground easy for progress. The two stopes in the back of this level are each yielding 4 cwt.s. of lead per fathom.—South Mine: The ground in the 63 fathom level cross-cut west is without change. The ground in the rise in the back of the 60, on the eastern lode, is easy for exploring, and good progress is being made. The lode is 3 feet wide, but not to value. We have nothing new to state in Harris's shaft since our last report. The tribute pitches are much the same as for some time past.

TREVENEN AND TREMENHEERE UNITED.—J. Medlyn, C. George, July 3: Trevnen shaft, sinking below the 200, yields saving work for the stamps, of low quality. The 200 west is worth 5*l.* per fathom. The 197 yields a little tin, but not to value. Two stopes in the back are worth 8*l.* per fathom each. The ground in the 187 is still improving, but still rather stiff for driving. The 172 is worth 30*l.* per fm. This level, west of cross-cut, is worth 18*l.* per fathom. No lode has been taken down in the 162, east of Johns' winze, since the last report. The 160, on the eastern lode, is easy for exploring, and good progress is being made. The lode is 3 feet wide, but not to value. We have nothing new to state in Harris's shaft since our last report. The tribute pitches are much the same as for some time past.

VIGRA AND CLOGAU.—W. J. Holman, July 4: At No. 2 mine, No. 5 sink,

Trevnen shaft, sinking below the 200, yields saving work for the stamps, of low quality. The 200 west is worth 5*l.* per fathom. The 197 yields a little tin, but not to value. Two stopes in the back are worth 8*l.* per fathom each. The ground in the 187 is still improving, but still rather stiff for driving. The 172 is worth 30*l.* per fm. This level, west of cross-cut, is worth 18*l.* per fathom. No lode has been taken down in the 162, east of Johns' winze, since the last report. The 160, on the eastern lode, is easy for exploring, and good progress is being made. The lode is 3 feet wide, but not to value. We have nothing new to state in Harris's shaft since our last report. The tribute pitches are much the same as for some time past.

WEST PENHALLE VOR.—W. H. Martin, July 4: At our pay, on Friday

last, the following bargains were set:—Sanford's shaft to sink below the 84,

the lode is 2 ft. wide, and produces a good van of tin. The 38 to 1 fm., at 16*l.*; the lode is 1 ft. wide, and worth 8*l.* per fathom. The 179 is 10 inches

drive east from Battye's shaft, on south lode, at 4*l.* per fm., which is 10 inches

wide, and producing stamping work. A rise in the back of the 38, on the same

lode, at 4*l.* per fm., and 13*s.* 4*d.* tribute on all tin; the lode is 18 in. wide, and lode, at 4*l.* per fm. The 26 to drive east from Battye's shaft, on south lode, at 8*l.* per fm.; in the present end a cross branch has disordered the lode, which is now worth 8*l.* per fm. for tin. A stop in the back of the 26, at 2*t.* 10*s.* per fm.; the lode is 18 in. wide, and worth 10*l.* per fm. A stop in the bottom of the 26, east of winze, at 2*t.* 10*s.* per fm.; the lode is 1 ft. wide, and worth 8*l.* per fm. We have cut the south lode in the cross-cut driving south from Battye's shaft, in the 10, and have put the men to drive east and west on the course of the lode, to drive south in the 74, from Hollingsworth's shaft, at 7*s.* per fm.; we have driven over the distance further than expected, and are daily expecting to cut the lode. We set the usual number of tribute pitches.

WEST PENHALLE VOR.—W. H. Martin, July 4: On Saturday last the

following bargains were set:—To drive the 45 east, by four men, ston the month,

at 4*l.* per fm.; the lode in the present end is worth 10*l.* per fm. A stop in back of the 45 east, by four men, ston the month, at 2*t.* 5*s.*; the lode is worth 10*l.* per fm. To rise and stop in back of the 45 west, by six men, stent 4*s.* fm., at 4*l.* per fm.; lode 3*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 45 west, by four men, stent 1*s.* fm., at 12*s.* per fm.; lode 6*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 55 cross-cut, north, by six men, stent 2*s.* fm., at 8*l.* per fm.; the lode at present is 3*t.* 6*s.* wide, worth 40*l.* per fathom. No. 1 stop, in back of the 55 east, west of the 45 east, by four men, stent the month, at 2*t.* 15*s.* per fm.; lode worth 20*l.* per fm. One stop west of winze, by six men, at 2*t.* 15*s.* per fm.; worth 30*l.* per fm. One stop east of winze, by six men, at 2*t.* 15*s.* per fm.; worth 30*l.* per fm. To drive the 55 west, on the south part of lode, by six men, stent 1*s.* fm., at 8*l.* per fm.; the lode altogether 6*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 55 cross-cut, north, by six men, stent the month, at 7*t.* 10*s.* per fm.

WEST PENHALLE VOR.—W. H. Martin, July 4: At our pay, on Friday last the following bargains were set:—To drive the 45 east, by four men, ston the month, at 4*l.* per fm.; the lode in the present end is worth 10*l.* per fm. A stop in back of the 45 east, by four men, ston the month, at 2*t.* 5*s.*; the lode is worth 10*l.* per fm. To rise and stop in back of the 45 west, by six men, stent 4*s.* fm., at 4*l.* per fm.; lode 3*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 45 west, by four men, stent 1*s.* fm., at 12*s.* per fm.; lode 6*t.* 6*s.* wide, worth 20*l.* per fm. To drive the 55 cross-cut, north, by six men, stent 2*s.* fm., at 8*l.* per fm.; the lode at present is 3*t.* 6*s.* wide, worth 40*l.</*

Above the 90, west of Taylor's shaft, the lode is worth  $\frac{1}{2}$  ton per fathom. Below the 60, east of River shaft, the lode is worth 1 ton per fathom. Above the 90, east of No. 61 winze, the lode is worth  $\frac{1}{2}$  ton per fathom. Above the 100, east of Taylor's shaft, the lode is worth  $\frac{1}{2}$  ton per fathom. Above the 100, east and west of No. 60 winze, the lode is worth 1 ton per fathom.—Stopes on Caunter Lode: Above the 80, east of No. 59 winze, the lode is worth 1 ton per fathom. Above the 70, east of Jaara's winze, the lode is worth  $\frac{1}{2}$  ton per fathom.—On the 50, west of Machado's winze, the lode is worth  $\frac{1}{2}$  ton per fathom. Slide Lode: The stope above the 25, west of Mill lode, is worth  $\frac{1}{2}$  ton per fathom.—Stopes on Great Caunter Lode: Above the 50, east of Laurance's winze, is worth  $\frac{1}{2}$  ton per fathom.—Stopes on Mill Lode: Above the 38, east of Taylor's, the lode is worth 1 ton per fathom.—Stopes on the New Lode: Above and below the 50, west of Taylor's, the lode is worth  $\frac{1}{2}$  ton per fathom.—Stopes on Mill and Slide Lodes: Below the 60, west of Campino's winze, the lode is worth 1 ton per fathom.—Carvalhal: In the 40 fathom level, east of incline shaft, the lode is 1 foot wide, composed of quartz, mixed with the country, and yielding small stones of lead ore. In the 40 fathom level, west of the same, the lode is  $\frac{1}{2}$  foot wide, composed of quartz and country, spotted with a little lead. In the 30 fathom level, east of the same, the lode is  $\frac{1}{2}$  foot wide, yielding stones of lead. In the 30, west of the same, the lode is rather improved, being now worth  $\frac{1}{2}$  ton of ore per fathom. In the 20, east of the same, the lode is worth 2 tons per fathom. The lode being very wet and troublesome for breaking, we can go through but very little ground per month. In the 20, west of the same, the lode is 3 feet wide, composed of quartz, mastic, and stones of lead, worth  $\frac{1}{2}$  ton per fathom.—Stopes on the Great Lode: Above the 20, east of incline shaft, the lode is worth 1 ton per fathom. Above the 20, west of incline shaft, the lode is worth  $\frac{1}{2}$  ton per fathom.—Figueredo Mine: In Henty's shaft, sinking below the 20 metres level, the ground is very soft, and the water about 150 barrels in eight hours.

**BRITTANY.**—James Trevillion, July 2: Tremuson Mine: We have commenced driving north and south at the 54 fm. level. The lode in the south end is 2 ft. wide, composed principally of capel. The lode in the north end is  $\frac{1}{2}$  wide, composed of quartz, capel, and lead, and will yield of the latter 6 cwt.s. per fathom, promising an early improvement. We are pushing on the driftage at this level by six men in each end. In the 44, north of shaft, we have commenced driving a portion, if not the main part of lode in that direction. In the adit level we have cut through the east and west lode, and opened on the course of the lode 3 fm. The lode in each end is full 3 ft. wide, consisting of flookan, mastic, blonde, prian, and good stones of lead—altogether a very promising looking lode, and the ground being very easy for exploring, we shall soon open out a long piece of ground on the run of the lode. No time will be lost in proving this important lode. The engine, with pitwork, are in good working order.

**RHENISH CONSOLS.**—Geo. Sweet, June 29: Our operations have recently been confined to the development of the Fahrenberg and Bleibach Mines, and in reference to which I beg to report as follows:—Fahrenberg: The 10 lachter drivage, under the adit, has been extended north 10 lachers, and then upon a caunter vein a further distance of 4 lachers from the engine-shaft. South of this shaft the level is advanced 4 lachers, making an aggregate of 18 lachers. Throughout the entire length the vein is large, well mineralised, and encloses gangue of the usual character, but as yet not associated with any valuable quantities of ore. The drivage of the 10 lachter level, south of the shaft, will be made with all dispatch, since the adit level and workings extending near the surface large quantities of ore were derived from the run of ground we are now about to enter. The cost at this mine comprises maintenance of steam machinery (say) 15/- per month; steiger and exploratory works, 35/- per month; total, 50/- per month. Before the close of the present year it is probable that the value of this property will be determined for the shareholders.—Bleibach and Christiania:—1st Christiania: Since the date of the last monthly meeting Pittar's sink has been communicated with Astley's shaft. The water now flows to the deeper level, and a free circulation of air is established. In the bottom of the sink the lode is of unusual width, and affords 4 tons of ore per lachter. The drivage west of this sink, and at the 10 lachter level, is now advanced 20 lachers. Latterly but little ore has been met with. This circumstance, however, may be owing to the direction of the drivage itself, since the width of the vein is greatly in excess of the width of the level. To determine the value of the ground cross-ways will be driven, or otherwise rises made, to communicate with the upper level. Sweet's sink, under the adit, and 20 lachers west, is now six lachers deep. The yield of ore from this point is about 30 centners of ore per lachter. A stop over the adit 4 lachers west of Sweet's sink, is affording some rough ore, and gives promise of improvement. A stop under the adit, and east of the shaft, is yielding 40 centners of ore per lachter.

At Bleibach the adit level is now nearly 75 lachers west of the engine-shaft. For several lachers back from the forebstre the lode has given a fair amount of ore. The 10 lachter level has been driven 60 lachers west of the shaft. The lode in the forebstre is of great width, and affords blonde, with stones of lead ore. In a stop over the level, and 40 lachers from the forebstre, good ore is being extracted. On the south vein the 10 lachter driving under the adit level is 45 lachers east of the engine-shaft. This shaft is now going below the 10 lachter level, with the view of opening up additional productive ground. The driving for the missing portion of this vein has not been attended with success. It would appear now that klufts other than the copper-lode have occasioned shifts in the ground. Reference has been made in former reports to the unbroken ground between Bleibach and Christiania. From the result of recent explorations, it is tolerably certain that Bleibach north and Christiania main vein are one and the same fissure, and that there are 400 yards of vein between the two points for future development.—Returns of Ore: The quantity for June month will be (say), lead ore, 25 tons, 190/-; blonde, 10 tons, 80/-, equal to 220/- per month; total, 50/- per month. Cost on capital account—Fahrenberg, 50/-; Bleibach and Christiania, 35/-, equal 35/- total balance of expenditure, 105/-.

I desire very much to increase the returns, and hope we may be able to do so gradually; it requires, however, a lengthy period to open up any considerable extent of ground, and to establish such resources as shall give the property a remunerative and permanent character. The workings have hitherto been conducted with this view, and latterly the prospects of the concern have sensibly improved.

**SIEGENA SULPHUR MINING COMPANY.**—In the Journal of June 22 there appeared some comments upon the prospectus of this company, which had been forwarded to us from Westphalia for publication. We are informed by the directors that the statements then made are not in accordance with truth, and that they offer an unqualified contradiction to them.

**THE DON PEDRO NORTH DEL REY COMPANY.**—The last advices to hand are the most satisfactory yet received. The return for May is about 29,000 oits., and the remittance by steamers (3153 ozs.), 27,328 oits., and is made up of the four last days of April and 27 days of May, and exceeds the previous remittance by 3127 oits. The return for April amounted to 24,066 oits., and the profit to 7702/-.

**MINING IN WALES.**—The success attending the development of the Montgomeryshire lead mines, most of which are worked as private enterprises, has induced the formation of a well-organised company for the working of a proved mineral property, hitherto known as the Cwmfron, but now called the Mid-Wales Lead Mine. The name has been suggested by the fact that the Mid-Wales Railway passes within a short distance of the property, while corroborative practical testimony bears the strongest evidence that it contains all the elements essential for a permanently productive mine—large, well-defined lodes, a fine strata, and a highly mineralised district. Among others, Capt. John Kitto (late of the Great Laxey) concludes a favourable report by stating that "operations have been actively commenced, and in several instances have been already attended with very great success, particularly Brynpostig (which immediately adjoins the Mid-Wales Mine); and I have no doubt, judging from present appearances, that the Mid-Wales Mine will, ere long, rank amongst the most prominent;" and Capt. James Nancarrow (manager of the Stiperstones Mines), states that "the Mid-Wales Mine is a valuable property, and one that is well worthy of being energetically worked; and I have no doubt if you do so you will have a good mine." Up to the present time the mine has formed a portion of the successful Brynpostig, and an adit has been driven for some distance of a promising character, with every indication of a progressive improvement—indeed, such are its characteristics that it is thought that an expenditure of a comparatively small amount of capital will bring the property into a remunerative condition.

**MINERAL RIGHTS ASSOCIATION.**—We are informed that the directors have arranged the terms of a very important agreement, which is likely to yield large profits. Under these circumstances any attempt to wind-up the company, while there is no chance of such attempt succeeding, can only militate against the interests of the shareholders.

**ENGLISH MACHINERY IN AUSTRALIA.**—From Adelaide (April 27) we learn that "the Moonta Mine has recently been the scene of much rejoicing, owing to the successful starting of the new machinery. For some years past the firm of Nicholls, Matthews, and Co., of the Bedford Ironworks, Tavistock, has enjoyed a high reputation in Australia, and the whole of the machinery started upon this occasion was supplied by them. Mr. Hancock, the able manager of the mine, expressed the greatest satisfaction at the way in which everything worked; the engine started in beautiful style, amidst the hearty cheers of the thousands assembled." An account of similar proceedings at the Wallaroo Mines was published in the Supplement of the Mining Journal of May 18. The mining machinery from the Bedford Ironworks is to be found in almost every part of the world where mining is carried on, so that it may be fairly presumed that their machinery has generally given satisfaction.

**IRON SMELTING AND MAGNETISM.**—Among the many new applications of electro-magnetism to the arts and manufactures is that of making it instrumental in the smelting of iron. A fixed electro-magnet is placed opposite an opening in the side of the furnace containing the metal to be smelted, and a current of magnetism is directed into the molten metal. The effect on the iron is said to be very remarkable, rendering it extremely tough and hard. The process is carried on with great success at one of the most important ironworks in Sheffield.—*Athenaeum.*

## The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JULY 5, 1867.

COPPER.	£ s. d.	£ s. d.	IRON.	Per ton.	
Best selected...p. ton	81	0 0-82	0 0	Bars Welsh, in London	
Tough cake and tile	78	0 0-80	0 0	Ditto, to arrive	
Sheathing & sheets	80	0 0-82	0 0	Nail rods	
Bolts	83	0 0-	0 0	" Staffd. in London	
Bottoms	88	0 0-	0 0	Bars ditto	
Old (Exchange)	72	0 0-	0 0	Hoops ditto	
Burra Burra	85	0 0-	0 0	Sheets, single	
Wire	per lb.	0 0 11½	0 0	Pig No. 1, in Wales	
Tubes	.....	0 0 11½	0 0	Refined metal, ditto	
			4 0	4 0-5 0	
BRASS.	Per lb.		5 0	5 0-6 0	
Sheets	.....	9d.-9½d.	6 10	6 10-7 0	
Wire	.....	8½d.-9½d.	6 10	6 10-7 0	
Tubes	.....	10½d.	6 10	6 10-7 0	
			Do. mirc. Tyneor Tecs	6 10 0	
			Do., railway, in Wales	5 15 0	
			Do., Swed. in London	10 10 0	
			To arrive	10 5 0	
			Pig, No. 1, in Clyde	2 14 0	
			Do. f.o.b. Tyne or Tecs	2 9 6	
			Do. Nos. 3, 4, f.o.b. do.	2 6 2	
			Railway chairs	5 10 0	
			" spikes	11 0 0-12 0	
			Indian Charcoal Pigs,		
ZINC.	Per ton.		12 London p. ton.	7 0 0-7 10 0	
			STEEL.	Per ton.	
TIN.	Per box.		Swed., in kgs.(rolled)	14 5 0	
English blocks	91	0 0	Ditto, (hammered)	15 0 0	
Do., bars (in barrels)	92	0 0	Ditto, in faggots	16 0 0	
Do., refined	94	0 0	English, spring	17 0 0-23 0 0	
Banca	93	0 0	QUICKSILVER (p. bottle)	6 17 0 0	
Straits	287	0 0-88		LEAD.	Per ton.
			English Pig, com.	19 15 0	
			Ditto, LB.	20 0 0	
			Ditto, 1st quality	21 15 0	
			Ditto, 2d quality	21 0 1 8 0	
			Ditto, 2d quality	21 0 1 4 0	
			Ditto, coke	21 0 1 4 0	
			Ditto, ordinary soft	20 0 0	
			Ditto, sheet	20 15 0	
			Ditto, red lead	21 0 0	
			Ditto, white	27 0 0-30 0 0	
			Ditto, patent shot	23 0 0	
			Spanish	19 10 0	
			At the works, ls. to ls. 6d. per box less.		

\* A Derbyshire quotation: not generally known in the London market.

**REMARKS.**—Complaints of the slackness of trade continue to be received from all quarters, and, in many instances, amounting to little less than total stagnation. Metals generally are inactive, which has been the case for some time past, and any permanent improvement, as far as can be judged from present prospects, seems as distant as ever. For nearly the last two years, with the exception of occasional fluctuations, the value of most metals has declined. In this, however, there has been a recovery from the lowest point, but prices of other metals are still at about their lowest rates, and it is thought may, in the absence of demand, even suffer further depreciation. Confidence, to great extent, is restored now that so thorough a clearance of weak, speculative, and mushroom houses has been affected. Money is cheap and abundant. Political affairs assume settled aspect, and everything apparently combines to make business safe and brisk; yet there is no movement amongst operatives, or the slightest visible sign of animation. Business is altogether unsatisfactory, both to buyers and sellers, and any change from this monotonous state of affairs would prove most acceptable.

**COPPER.**—A few sales of Chili have taken place at reduced prices, but without effecting any marked change in the position of this metal. English is dull, and enquiries are extremely limited, and mostly at limits below what sellers can entertain. Yellow metal quiet.

**IRON.**—Dull, and prices of most descriptions easy; the principal enquiry for rails is for Russia; merchant bars can be bought at slightly lower rates. Staffordshire bars and sheets, excepting special brands, are offering at comparatively cheap prices, but they are difficult to place. Swedish bars are nominally as last quoted. Scotch pigs have scarcely undergone any alteration.

**LEAD.**—Sellers are anything but busy, and are not unprepared to make a slight concession in price to meet buyers' limits.

**SPelter.**—A downward tendency has set in, and sales are reported as low as 20/- 12s. 6d. The stock in London has increased during the past month about 600 tons.

**TIN.**—English advanced on the 3d inst. 2/- per ton on blocks, bars, and refined; and the demand for shipment seems scarcely to have warranted this advance. Straits are quoted at 87/- In Banca there is very little doing, the price is much about that of Straits.

**TIN-PLATES.**—Coke have been in better request, and prices are a shade higher.

**STEEL.**—Swedish is neglected; kegs, 15/-; faggot, 16/-

**QUICKSILVER** remains as previously reported.

We stated last week that the decline of 2/- in the standard for copper ore was very disappointing, when circumstances had led us to expect a rise. There had been, in fact, greater competition at the Ticketings, or weekly sales, and the higher prices paid by the smelters led to the general expectation of a permanent rise, until the advices received from Chili, late in June, announced large shipments of ore for the month ending May 16. There is consolation, however, in the fact that the stocks on hand are known to be small, and any increased demand for copper among consumers would soon counteract the effects of recent imports.

In the MINING SHARE MARKET this week there has been considerable activity, and a good demand for certain shares, particularly Great Retallack, Prince of Wales, East Grenville, South Frances, Wheal Buller, Wheal Chiverton, Wheal Seton, and a few others. The standard for copper ore is again a little weaker, but tin, we are glad to say, has advanced. Prince of Wales shares opened on Monday flat, at 62s., sellers, but they advanced again later in the week, and leave off 67s. to 69s.; the report values the different points in operation at 210/- per fathom. The 55 east is worth 40/- per fm.; west, 20/- West Prince of Wales, 12s. 6d. to 15s. South Frances shares have been dealt in, and leave off 33 to 40; at the meeting, on Monday, the accounts showed that a profit of 61/- 0s. 4d. had been made on the two months, and the balance in hand was 336/- 19s. 1d. The mine has very much improved, and the committee congratulate the shareholders on the prospect of an early revival of dividends. The 84, east of Pascoe's shaft, is worth 20/- per fathom for copper ore. The 74 is worth 50/- per fathom. Winze below the 74, 50/- The sale, on Thursday, is the best the mine has had for years, and will leave a considerable profit.

Great Retallack shares have been in good demand, and leave off 5 to 5½; the mine has improved in several points, and by the end of August it is expected the lode will be seen in the 20 fm. level. North Retallack, 4½ to 5. Wheal Buller shares have advanced to 24, 26, and leave off 23 to 25. The 80 east is worth 30/- per fathom, and the winze 20/- per fathom. Other parts of the mine are looking well, and lead to the expectation of early profits. Chiverton Moor, 5½ to 5¾. Chontales Gold share have fluctuated from 4½ to 5½, and leave off 5 to 5½. Clifford Amalgamated, 7½ to 8. East Bassett shares have advanced to 20, 22½, upon an improvement, of which, however, we have no official information. Prosper United, 2½ to 2½; a statement of accounts has been issued by the purser, showing a balance against the adventurers of 99/- 19s. 2d., and he states that he does not propose to incur the expense of a meeting until the next quarter. A sale of ore, amounting to 1393/- 2s. 4d., is not credited in the accounts. The mine, he states, continues to open well, and both shafts are being sunk from the 90 to the 100 with all possible speed. East Caradon, 5½ to 6; East Lovell, 7 to 7½; East Russel, 2 to 2½; East Wheal Grenville, 2½ to 2½; Frontino and Bolivia, 8s. to 10s.; Great Laxey, 18 to 19; Great Wheal Vor, 17 to 18; Hindston Down, 1½ to 2; Marke Valley, 4½ to 5; North Crofty, 3½ to 4; North Treseker, 1½ to 1½; Providence Mines, 28 to 30; South Conduor, 12s. 6d. to 15s.; South Grenville, 6s. to 8s.; Tincroft, 13 to 14; West Bassett, 15s. to 20s. West Chiverton, 65 to 67; we have no official reports of this mine now, but understand it is looking well. West Seton, 140 to 150; Wheal Bassett, 67½ to 70; Wheal Crebor, 8s. to 10s.; Wheal Mary Ann, 13½ to 14½; Wheal Seton, 110 to 115.

the directors are—Colonel William Henry Sykes, M.P., F.R.S. (Chairman of the Hon. East India Company), Sir Charles Fox, and Messrs. J. Harbottle, F. Krupp, jun. (late of the Essen Steel Works, Rhenish Prussia), and C. W. Siemens, F.R.S., and they unite in expressing their belief that the profits to be derived will be of a highly satisfactory nature, and acting thereon, they have, according to Clause 91 of the company's Articles of Association, agreed to place at the disposal of the company all the practical knowledge they possess without remuneration, until the shareholders shall have received in each year a dividend of 10 per cent. upon the paid-up capital. The nominal capital is £500,000, which is divided into 25,000 shares of 20/- each, of which only 12,500 will, in the first instance, be issued.

At the Cwm Eryr Mine meeting, on June 21, a dividend of 867/- (1/- per share) was declared, payable July 3. The prospects of the mine are good.

At the Foxdale (Isle of Man) Mining Company meeting, at Chester, on June 28, the directors declared a dividend of 1400/- (10/- per share) for the last quarter, payable on July 16.

At West Caradon Mine meeting, on Wednesday, the accounts showed a debit balance of £365. A call of 17s. 6d. per share was made. The report was considered satisfactory, and the prospects of the mine of an encouraging character. A meeting had not been held upon the mine for many years, and that on Wednesday was convened for the purpose of affording the shareholders an opportunity of visiting the property. The new (Marina's) engine went to work, and it is expected that in a few weeks the tide will be intersected.

At South Wheal Frances meeting, on Monday (Mr. R. R. Broad in the chair), the accounts showed a profit on the two months of £11. The chairman congratulated the adventurers on the improved prospects of the mine; and with respect to the lawsuit, stated that the interrogatories of the West Basset people had been well and satisfactorily answered. He remarked that, having been himself, happily unaccustomed to Chancery proceedings, he knew not what might be the next step; but he felt assured the suit could not much longer be continued, but possibly some kind of rejoinder might be expected.

At the South Fowey Consols Mine meeting, on Thursday (Mr. N. Kendall, M.P., in the chair), it was unanimously resolved that the mine was a sound and legitimate speculation, well deserving the attention of capitalists. Details in another column.

The New Quebrada Company have received advices from the resident manager, stating that Mr. Carr (the contractor, and a portion of the staff have arrived at Tucumac. The portion of the line completed (4½ miles) is in excellent condition, and they will at once proceed with the continuation to Palma Sola. The resident manager has had an interview with the President and Government of the country, who evinced the greatest anxiety and interest in the progress of the railway and works, the President having actually presented him with letters to the different local governors, requesting them to give every co-operation and assistance, and confirming the concessions formerly obtained by the old company.

On the Stock Exchange an average amount of business has been transacted in Mining Shares during the week. The following quotations were recorded in British Mining Shares:—Great Wheal Vor, 18/-; Great Laxey, 17½; Prince of Wales, 3½; 3-16th, 3½; Drake-walls, 1½; East Basset, 22½, 22, 21, 20; South Wheal Frances, 38½; Wheal Buller, 27; Clifford, 7½; East Caradon, 5½; North Wheal Crofty, 3½; In Colonial and Foreign Mining Shares the prices were:—Cape Copper, 7½; Kapunda, 4½; Anglo-Brazilian, 1, 1-16th; Choncales, 4½, 4 11-16ths, 4½; Don Pedro, 4 1-16th, 3 15-16ths, 4½, 4½, 3½, prem.; Pestarena, 3½, 3, 2½; St. John del Rey, 59, 59½, 58½, 59, 59½; United Mexican, 2½; Fortuna, 4.

**COAL MARKET.**—The arrivals this week only number 76 ships. The demand for all descriptions of coal has continued steady, at fully last week's prices. Hetton Wallsend, 19s. 6d.; South Hetton Wallsend, 19s.; Haswell Wallsend, 18s. 9d.; East Hartlepool Wallsend, 18s. 6d.; Hartlepool Wallsend, 18s. 3d.; Hetton Lyons Wallsend, 16s. 9d.; Tunstall Wallsend, 16s. 9d.; West Hartley, 17s. 6d. Unsold, 4 cargoes; at sea, 30 ships.

**THE TIN TRADE.**—Mr. L. Th. van Houten (Rotterdam, June 29) writes—Our Tin Market has not shown much animation during the month, and although there has been a pretty fair enquiry, it has not resulted in much business, because the ideas of buyers as to prices have been much below those which holders have shown any inclination to accept, and transactions have, therefore, mostly been confined to actual necessities. Banca tin was in moderate request during the month, at prices ranging from 52½ fl. to 55 fl., which is now the closing quotation. In Billiton tin, at the spot, several sales took place at from 51 fl. to 52½ fl., and several lots afloat for March and April shipment were sold on private terms of speculation. The quotation to-day is 52 fl. on the spot, and 52½ fl. afloat for April and May shipment. The position of Banca tin in Holland on Jun 30, according to the official returns of the Dutch Trading Company, was:—

	1866.	1865.	1866.	1865.
Import in June, Slabs.	5,675	18,793	10,507	
Total six months.	54,388	125,626	105,019	
Deliveries in June.	5,600	10,579	5,900	
Total six months.	53,691	94,655	34,307	
Stock second hand (on warrants).	147,872	113,950	201,304	
Total stock.	197,817	221,600	217,023	
Stock of Billiton.	10,000			
Quotation (Banca).	53 fl.	46 fl.	54½ fl.	
June 29 (Billiton).	52			

These returns compared with those of 1866 exhibit a decrease of the import for June of 418 tons, a decrease of the import for the six months of 224 tons, a decrease of the deliveries for June of 125 tons, a decrease of the deliveries for the six months of 1290 tons, an increase of the stock second-hand of 1068 tons, a decrease of the unsold stock of 1833 tons, a decrease of the total stock of 763 tons, and an advance of the quotation of Banca of 11½ fl. per ton. The quantity of Banca tin now afloat for the Dutch Trading Company is 10,200 poods, equal to 63 tons. The Government returns for the month of April are as follows:—

	April.	1866.	1865.	Four months.		
Germany.	Tons 272	254	102	809	808	468
Belgium.	91	52	24	191	194	112
England.	30	108	9	62	170	59
France.	93	247	26	237	444	186
Hamburg.	43	27	10	96	108	28
United States.	3	18	—	6	139	26
Other countries.	18	91	16	43	128	28
Total.	Tons 550	792	187	1444	1991	907

According to the official returns, the import of tin for consumption in France has been—

	April.	1866.	1865.	Four months.		
England.	Tons 304	244	256	810	633	997
Belgium.	—	15	—	—	17	—
Holland.	52	120	53	307	478	222
Other countries.	23	—	49	185	67	288
Total.	Tons 379	379	338	1302	1195	1407

—Messrs. VON DAELSENZEN AND NORTH (July 3) write:—Whilst almost all other metals have been dull and declining in price, tin has attracted a considerable amount of attention—not of speculators, for as yet they are not to be tempted by anything, but of consumers, both here and abroad, who have been buying freely, as our reduced stocks show. A fair business has been done in Straits almost daily at gradually stiffening prices, and the position of the article is so strong that it only requires a little external aid to bring about a material advance. The total clearances of last month must be fully 400 tons, and we may look for a reduction again during the present month, as there are no arrivals of importance to come in for some time. It is true the quantity afloat is considerable, but it will come in gradually. The Amherst, with 296 tons of tin on board, was condemned at St. Helena, and the tin has all to be transhipped; and the Tamerlane, with 126 tons of tin on board, was wrecked off the coast of Sumatra, and is a total loss. The supply of tin at Penang was large, and prices moderate, but ship-room was still scarce. The delivery of Banca in Holland was, as anticipated, small, which leaves a large accumulation of old stock, but the arrivals towards the next sale and quantity afloat from Java are so small as to make it most unlikely the next sale will even reach to 70,000 slabs, originally calculated upon, and then considered a very moderate quantity. With a reduced production of Cornish tin, a retarded supply of Straits, a diminution in the production of Banca, and a good demand for consumption here and on the Continent, we may fairly look for an improvement in prices, especially when money has begun to flow in its accustomed channels. The quantity of tin here and in Holland, on June 30, was as follows, compared with the three preceding years:—

	1867.	1866.	1865.			
Slabs. Tons.	1866.	1865.	1864.			
Arrived for next sale 49,445—1570	107,650	2440	15,719	490	5,171	187
Stock here.	500	550				
Total.	2207	2846	3439	2593		

The quantity of tin now afloat for England is 1913 tons, against 1226 tons last year; to the Continent, 14 tons; and to America, 330 tons.

**THE COPPER TRADE.**—Messrs. Vivian, Younger, and Bond (July 5) write:—Some transactions have taken place in Chili at the equivalent of 70/- each, usual terms, which is the price now asked; but buyers are not for the most part willing to pay that figure. On the whole, the market has decidedly quieted down since the large business reported last week.

**STRONG WIREWORK,** the cross wires equally bent; also BEST STAMP GRATES, both of iron and copper, and punched copper plates; DITTO DITTO. All the above promptly supplied at

W. ESCOTT'S MINING MATERIAL DEPOT, TAIVSTOCK, DEVON.

CHAPLIN'S PATENT STEAM ENGINES AND BOILERS, OF EVERY CLASS, FOR SALE OR HIRE, at the ENGINEERING WORKS, No. 19, CORNWALL ROAD, LAMBETH, LONDON, S. (Opposite Waterloo Railway Station.)

### Contract for Coals for Halifax.

CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.



THE COMMISSIONERS for Executing the CONTRACT for SUPPLYING and DELIVERING into store at Her Majesty's Naval Yard, at Halifax, Nova Scotia, TWO THOUSAND TONS of SMOKELESS SOUTH WALES COALS, fit for the service of Her Majesty's steam-ships and vessels. The coals to be shipped, one-half in a month, and the remainder in two months, from the 16th July next.

A form of the tender and conditions of contract may be seen in the lobby of the Storekeeper-General's Department, Admiralty, Somerset House. No tender will be received after Two o'clock on the day of treaty, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing.

Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Coals for Halifax," and must be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House, accompanied by a letter signed by two responsible persons, engaging to become bound with the person tendering in the sum of £600 for the due performance of the contract.

By order,

ANTONIO BRADY,  
Registrar of Contracts and Public Securities,  
Contract Department, Admiralty, Somerset House, June 24, 1867.

### Tower—Sale of Stores.

BY ORDER OF THE SECRETARY OF STATE FOR WAR.



M. R. GEORGE SPILLMAN WILL SELL, BY PUBLIC AUCTION, in the Tower, on Tuesday, the 9th of July, 1867, at Eleven o'clock in the forenoon precisely, the following STORES:—

BEDS AND MATTRESSES, HAIR, CLOTHING, &c. BOILERS.

DUBBING, FURNACE BARS, BRASS, FORGES, IRON.

May be viewed at the Tower from Ten to Four o'clock the three days previous to the day of sale, and catalogues may be had at the War Office, Pall Mall; the Tower; and Royal Arsenal, Woolwich.

India Office—Contract for Copper Nails and Tacks.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.

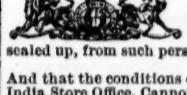


NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY on or before Monday, the 8th of July, to RECEIVE PROPOSALS, in writing, sealed up, from such persons as may be willing to SUPPLY—COPPER NAILS AND TACKS.

And that the conditions of the said contract may be had on application at the India Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 8th day of July, 1867, after which hour no tender will be received. GERALD C. TALBOT, Director-General.

India Office—Contract for Swedish Iron.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.



NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY on or before Monday, the 8th of July, to RECEIVE PROPOSALS, in writing, sealed up, from such persons as may be willing to SUPPLY—SWEDISH IRON.

And that the conditions of the said contract may be had on application at the India Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 8th day of July, 1867, after which hour no tender will be received. GERALD C. TALBOT, Director-General.

India Office—Contract for Iron Nails and Screws.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.

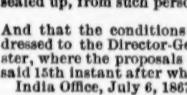


NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY on or before Monday, the 8th of July, to RECEIVE PROPOSALS, in writing, sealed up, from such persons as may be willing to SUPPLY—IRON NAILS AND SCREWS.

And that the conditions of the said contract may be had on application at the India Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 8th day of July, 1867, after which hour no tender will be received. GERALD C. TALBOT, Director-General.

India Office—Contract for Pig-Iron.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.



NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before Monday, the 15th instant, to RECEIVE PROPOSALS, in writing, sealed up, from such persons as may be willing to SUPPLY—PIG IRON.

And that the conditions of the said contract may be had on application addressed to the Director-General of Stores, India Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 15th instant after which hour no tender will be received. GERALD C. TALBOT, Director-General.

COAL.—PARTNERSHIP in a valuable COLLIERY, situated within a few miles of two of the largest seaport towns in SOUTH WALES, connected by broad and narrow-gauge railways. The incoming partner might manage the business of the shipping and town sale; also the working of the colliery.—Address, Mr. E. J. BEOR, F.G.S., &c., Swansea.

TO LANDED PROPRIETORS AND MINING COMPANIES.—WANTED, by a Person 34 years of age, of gentlemanly address, a SITUATION, either home or abroad. Is thoroughly conversant with accounts, is a practical mapper, diapter, and surveyor, and has a good practical knowledge of mining. First-class references.—Address, "B. B.", Post-office, Gunnislake.

FOREMAN for a GRANITE QUARRY, near REDRUTH.—WANTED, an EXPERIENCED MAN of good character.—Apply by letter, prepaid, to "H. V." MINING JOURNAL office, 26, Fleet-street, London.

WANTED, to REPRESENT, in SCOTLAND, a first-class FIRM, who MAKE and LEASE WAGONS for COALMASTERS and RAILWAY COMPANIES. Ample references given by JAMES SETON and Co., Commission Merchants, 99, West Nile-street, Glasgow, who have a connection with the above parties.

WANTED, by a PRACTICAL ENGINEER, of general experience in all its departments, and a first-class designer of machinery, and who has had many years' experience in mining and quarrying operations, where he has successfully introduced machinery for reducing labour and cost, a SITUATION as MANAGER of a GENERAL ENGINEERING WORKS. A quarrying or mining district preferred, as he now holds valuable designs for mining and quarrying machinery; or he would take the MANAGEMENT of MACHINERY connected with mining operations.

Address, "M. E.", MINING JOURNAL office, 26, Fleet-street, London.

WANTED,—A RE-ENGAGEMENT as COLLIERY MANAGER.—Many years' experience and first-class testimonials. No objection to go abroad.—Apply to "H. M.", MINING JOURNAL office, 26, Fleet-street, London.

SWING CRANE WANTED for a GRANITE QUARRY, near REDRUTH.—Second-hand or new; of iron, or partly wood, with a power winch attached, and the whole equal to swing 10 tons by three men.

Particulars

## WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINING AGENTS, STOCK AND SHARE DEALERS, &c.  
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS beg to notify to their friends and the public generally that Mr. CUELL has this day retired from the firm, in accordance with a clause in the deed of partnership; and having also sold to the remaining partners all his right, property, and interest in the business hitherto carried on by J. Y. WATSON, F.G.S., NAPOLEON FREDERICK WATSON, and himself, under the name of "WATSON and CUELL," the same will be carried on in future by Mr. J. Y. WATSON and Mr. N. F. WATSON, under the designation of "WATSON BROTHERS," and they take this opportunity to return their most sincere thanks for the great patronage bestowed and confidence reposed in the firm for 24 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, and to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the mining interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

**EXPLANATORY.**—We were sorry to find that Mr. Cuell, on the appearance of our Circular last week, considered an inference beyond what we intended might be drawn from our statement—that "he had retired from the firm, and sold to us all his property and interest hitherto carried on under the name of Watson and Cuell." He feared the public might think he had retired from business altogether; and on hearing of this, we immediately offered to correct any such impression, if he really thought it had been created, and this we now do with pleasure.

"W. S." somewhere about a year ago, wrote to the purser of a mine, saying he wished from that date to relinquish the shares standing in his name. The purser replied that there was a call due which, when paid, he would forward the formal form of relinquishment. "W. S." paid the call, but the purser never sent the formal form of relinquishment, though since that time "W. S." has never received any notice of meetings or calls, or anything in connection with the mine, and now asks us: Should we consider him free of the mine and of all liability? Should the mine in question ever get into the Stannary Courts there is no telling the way in which the case would be regarded; but it is evident—as there is in reality no stereotyped form of relinquishment, and an intimation to the purser is generally sufficient, we should consider the call paid by "W. S." fully covered his proportion of liability, and that the purser therewith removed is name from the list of shareholders.

**INVESTMENTS AND SPECULATIONS.**—When "financial" companies, paying their 20 and 40 per cent., first took the monetary world by storm, we held and expressed but one opinion of them, and we prevented all who applied to us from going into them. They became the fashion, however, and even the steady-going public, men who had hitherto preferred the "charming simplicity of the Three Per Cent.," became affected with the financial fever, and invested at first a little; then, as the taste and flavour of 20 per cent. became known and appreciated, they were led on to invest more and more, and to withdraw from steady investments; and when the "bubbles" burst there was a smash in the monetary world, and a loss of all confidence among the investing public. Then banks failed, involving hundreds of families in ruin; and now, just as confidence was becoming a little restored, we have a smash among the railways. Debentures are so much waste paper, and pre-preference shares were to have been the order of the day, if Parliament would have submitted to anything so monstrous. So, one by one, the fancy investments of the hour show their rottenness, and like the Dead Sea apple, so promising to look at, turn to ashes in the eating. It is something for us to say, then, that mining generally has stood its ground, and if abuses in management are sometimes found out, they are not of any magnitude, and annoy more than they hurt. All who go into mining know that they go into a speculation. We advise no one to put into mines money that they cannot afford to lose; and in this way, by a division of risks, they have chances of great gains, without being hit harder than they can bear by losses. In dividend mines, too, 10 per cent. may be got with comparative safety; but here, again, we never advise anyone to go too deep, or to invest all in one undertaking. Banks and railways, however, were considered such safe investments that the capital of whole families was invested in them, and they have proved to be worse than the worst of mines.

"**INQUIRER.**—Sell 1, 3, and 6. Hold the others for the present.

"X. Y. Z."—We noticed the extract from the *West Briton* in reference to relinquishments, and, if correct, then secretaries and purser have for years been demanding what they had no right to demand—payment of calls before we would accept relinquishments.

"X. Y. Z."—The best answer to those who say the ground is getting hard in Prince of Wales is this month's setting report. The 55 east, it will be seen, is worth 40*t*. per fm., and driving at 6*t*. 10*l*; the 55 west, 20*t*. per fm., and driving at 8*t*. The only expensive setting is the 45 west, at 12*t*. per fm. (worth 20*t*.); and this is owing to the great width of the lode. The stopes are set principally at 2*t*. 1*l*. per fm., and worth 20*t*. and 20*t*. each. The total value of points in the mine is 210*t*. per fm., and the agent assures us he is discovering monthly a great deal more ore than he is taking away.

**CHONTALES.**—The difference in quotations observed by our correspondent is owing to the amount paid up being incorrectly given. In the *Times* list of July 3 they were quoted 3*t*. 4*l*. paid, 1*t*. to 1*l*. premium; now there is 4*t*. paid, and 1*t*. to 1*l*. premium, makes the price quoted on the Mining Exchange—viz., 5*t*. to 5*t*. 4*l*. We hardly expect a remittance of gold before the end of the month, though it's just possible the next packet, due about the 14th, may bring some.

## PRACTICAL TELEGRAPHY.

The Electric Telegraph has now for some time occupied a place amongst our every-day necessities, and there is, probably, nothing the result of the discoveries of modern science the loss of which would be more generally and severely felt; yet comparatively little is known of the mode in which the communication is carried on, or the principles upon which its operation depends. An opportunity, however, is now offered for acquiring ample information upon the subject in a most interesting manner from the very instructive volume by Mr. CULLEY, the second edition of which has just been issued. The history and practice of telegraphy is treated in a concise yet exhaustive manner, the researches and experience of all the great electricians having been availed of by the author, and compressed into the narrowest possible limits compatible with the proper treatment of the subject. He commences by a description of the apparatus in use, observing that they may be divided into two classes, those whose signals are transient, and must be read off one by one as they appear, and those which record their signals permanently, so that they can be read at leisure. The double needle instrument is rapidly going out of use, and the single needle is not now employed by the Electric Telegraph Company upon any important circuit, the recording instruments having been found much more accurate.

The commercial value of an instrument does not depend so much upon its power to record in the ordinary alphabet as in the amount of work it will turn out, and its freedom from derangement. The Morse instrument, Mr. Culley tells us, is at present unsurpassed in these respects, and it has been found that its introduction upon a circuit previously worked by the needle system reduces error to a very considerable extent. This arises from its signals being recorded. Mr. Culley gives a record of the relative speed attained with the double needle and Morse (printing) instruments in a fair trial of speed, which is especially interesting, as showing how finely the eye can be trained to the use of the needle instrument. The highest speed on a circuit of a little under 200 miles was—double needle, 35 words per minute; printing, 38 words per minute; whilst the average of between two or three hours continuous work, reporting a speech of Mr. Bright, was—double needle, 24*t*. words per minute; printing, 26*t*. per minute. After stating the various sources of electricity, Mr. Culley explains the resistance and laws of the current; magnetism and electro-magnetism, electro-dynamic or current induction, electro-static induction, atmospheric electricity, deflections of earth currents, and insulation, and thus prepares his readers to comprehend the succeeding chapters, which may be considered to contain the absolutely practical part of the subject. In this portion of the work the construction of a line of telegraph is first considered, and ordinary testing, and the modes of connecting the wires for testing, are then explained. These are followed by a chapter containing descriptions of the instruments for signalling, the needle instrument, printing telegraphs, switches or commutators, and translators. The concluding chapter treats of underground and submarine telegraphs, underground and tunnel works, submarine cables, of the mode of testing for the distance of faults in cables, and the speed or capacity for work of a cable—an appendix and notes, and a series of the most useful tables, completing a volume of the greatest practical utility to those actually engaged in the working of telegraphs, and of the highest interest to those who merely avail themselves of the advantages which telegraphy offers.

"A Handbook of Practical Telegraphy." By R. S. CULLEY, Engineer to the Electric and International Telegraph Company. London: Longmans.

## NOTICES TO CORRESPONDENTS.

\*\* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

**PRACTICAL MINING—DRIVING LEVELS, &c.**—Have you a set of tables for measuring shafts, ends, winzes, stopes, &c., with the solid contents totaled up from inches to fathoms? For example, suppose you have a piece of ground measuring 19 feet long, 11*l*. feet wide, and 8*l*. feet high. I want to know the number of solid fathoms this measurement contains.—C. H. W.

(We know of no tables for giving the particulars required, but the result is easily obtained by multiplying the three quantities together. Thus, 19 ft. is 3 fms. 1 ft.; 11*l*. ft. is 1 fm. 5 ft. 6 in.; and 8*l*. ft. is 1 fm. 2 ft. 6 in. Then, 3 fms. 1 ft. multiplied by 1 fm. 5 ft. 6 in.=5 fms. 0 ft. 7 in., and this multiplied by 1 fm. 2 ft. 6 in.=7 fms. 1 ft. 4 in., which is the quantity of ground to be paid for.)

**PLASTIC SLATE.**—Can any of your correspondents inform me if this is a patent and, if so, who the patentee is; also, the names of the manufacturers, and to what uses it can be applied?—J. S. M.

**NEW QUERADA.**—Although the shareholders have at different times received a great deal of what may be termed superficial information as to the capabilities and value of these mines, there never has yet been published—at least so far as my knowledge goes—a practical description of the resources of the property. Surely there is some one who can afford the shareholders this important information.—A. B. C.

**WHEAL MARGERY.**—In the Mining Notabilia (May 25 and June 1) I find a statement that the shares in this mine are about to be increased to give additional capital for the further development of the property. I have been anxiously looking forward to see the result of the meeting held at the mine on June 10, and to know whether any of the shares are to be purchased. From the excellent position of the mine, the near approach to the granite, and the immediate proximity to the celebrated Providence Mines, I cannot help thinking the prospects are of such an unusually good character that it can hardly be called a speculation, and, have, with others, been looking for some expression of opinion in your valuable Journal.—J. B.—[By the resolution passed at a special general meeting of the mine, the shares were ordered to be increased, and they are now increased from 702 to 2808, of which shares 1404 are now issuing at 2*t*. per share, the reason of this being done is that the present shareholders have expended about 100,000*t*. in developing this property, and they are of opinion that a small further outlay will enable them to intersect the junction of the killas and granite in the engine-shaft, when very satisfactory results are expected, inasmuch as at the Providence Mines, which adjoin this mine, after a similar outlay, became profitable, and has since divided nearly 100,000*t*. profit. It continues to look well, pays regular dividends, and has large reserves of tin ore. The present is considered a most favourable opportunity for investment, as the mine is in a perfect state of working, and is supplied with efficient machinery, and we are informed that all the new capital is to be spent in the development of the mine, and it is supposed that in a short time the junction will be reached.]

**DEVON NEW MARIA.**—Is this, mentioned by "Investigator" in last week's Journal, the mine announced in the *Mining Journal* of Feb. 9 as about to be worked by Mr. H. L. Phillips and some other gentlemen?—OBSERVER.

THE MINING JOURNAL,  
Railway and Commercial Gazette.

LONDON, JULY 6, 1867.

## THE AMERICAN VERSUS THE BRITISH IRON TRADE.

It has been known to us for some time what was the general bearing of the evidence given before the Trades Unions Commissioners; but we resolved to defer any notice of it until the official minutes of the evidence which Mr. A. S. HEWITT gave had appeared. Those minutes have only just been obtainable, and we take the earliest opportunity of bringing before our readers one or two of the points in that gentleman's testimony in which they may be fairly supposed to feel most interest. Mr. HEWITT is an ironmaster of long and comprehensive experience. He is a partner in the firm which has the founder of the widely-known Cooper Institute for its head, and possesses works in the states of New York, New Jersey, and Pennsylvania, where they employ 4000 hands. Moreover, Mr. HEWITT is a director of one of the leading railroads of the States. The testimony of such a man may, therefore, be regarded as of much worth upon any question relating to the American iron trade, especially as the witness is as observant as he is influential, and expresses himself with the perspicuity which is the characteristic of the clear thinker.

We would first hear him upon the question of the possibility of carrying on the manufacture of iron in the States under ordinary circumstances with a prospect of success on the part of the American ironmaster in his competition with the ironmasters of Great Britain. On this point he is explicit, that without a heavy tariff on that side the Americans cannot compete with the British makers. "The British iron," he says, "comes into our country and undersells the iron of our manufacturers, and we are periodically ruined. I mean that whenever there is a period of stagnation in England there is such an influx into the American market that every ironworker (master) in America must be ruined; and I, in my own experience, have seen every large establishment in the United States in existence prior to 1860, with the exception of two, of which the owners happened to be rich people, either fail or compromise with their creditors, or sold by the sheriff." Mr. HEWITT gives as the "sole cause" of this "the ability of Great Britain to make iron at a less cost than we do." To this conclusion there can be no dissent; but Mr. HEWITT adds, "in consequence of the lower rates of labour in this country." He shows why all kinds of manual labour will always be higher in such a country as the States, with a wide extent of uncultivated land waiting only for occupying tillers, who may have an allotment for the asking: and he then goes on to compare certain departments of the ironworks in Wales with those in America; maintains that the employment of women in ironworks (the operation of piling for the mills) is degrading to labour—a degradation of labour to which America, neither employers or employed, is prepared to imitate.

These two causes are, to his mind, the chief amongst those in operation to keep up wages in America considerably above the scale at which English labour is remunerated. Hence he argues for a high protective duty. "If," he remarks, "we say we will not degrade our labour, and we will not give up the business, then we are driven to the tariff." Mr. WILLIAM MATTHEWS, himself a large employer of labour, alike in Wales and in Staffordshire, however, succeeded in so putting the matter before the witness, that his answers became conclusive, that we secure very little advantage in the competition from the employment of women and boys, and that without that difference in a small portion of labour employed in the two countries, it is impossible for America to compete with England in the manufacture of iron, without imposing burthens upon the great consuming public in that country, which is manifestly unfair, as it is impossible for any section of traders to attempt. We transfer the following portion of the minutes as conclusive upon this point:—

"I think you said that puddlers' wages, taking that as the groundwork of the regulation of other rates of wages, and comparing the prices of South Staffordshire with yours in America, were about three times as much in America as in South Staffordshire?—Nearly."

Therefore, I conclude that the wages of other descriptions of labour would be founded pretty much on the same ratio?—They will be found nearly so, but I may qualify the statement in this way. We have now made our estimate of what a puddler can earn upon the theory that he works his 11 turns in a week, but when that high rate of wages prevails the puddlers do not average 11 turns, they would do well if they averaged 10 turns. Therefore, that estimate would be slightly exaggerated when carried out into the entire week, but I can give you the wages for ordinary purposes.

If the rate of wages in America is regulated by the rate of puddlers' wages, and the puddlers represent nearly three times the amount of wages paid in England, that would be a sufficient increase compared with the English rate of wages to account for our own making iron very much cheaper than they do in America, apart from the employment of women?—Yes; I assert that that is the case. I only say that you have got one element of labour unnecessarily low for that purpose. I set out by reciting the argument used on our side in favour of protection. I admit now frankly that as long as this rate of wages prevails in America you do not want the female labour or boys' labour to beat us.

It is not we who want the female labour or the boy's labour, but the women want it themselves, you know?—I know that. I have tried to study the cost of producing iron in England. I have been all through the Staffordshire region previously, and I have been carefully through the North of England, and I know that there are abundant reasons in the condition of your labour generally why you should undersell us without any reference to this outside matter."

No wonder, therefore, that all the ironmasters of America, save two, should be ruined up to 1860. The attempt to compete with Great Britain in this article of manufacture is unnatural, and must, sooner or later, come to an end, so far as it is attempted to be forced by a

high protective tariff. A man of Mr. HEWITT's intelligence must be convinced of this, and we gather that such a result is deemed by him as probable, and by his intelligence would be welcomed; but it is pardonably repelled by the interest he has at stake in trying to prevent the existence of a trade in which he is so greatly concerned.

We have touched upon only one feature of Mr. HEWITT's testimony. There are others that should be taken up, and we will do so to the minutes again in next week's Journal.

## APPLICATION OF FIRE-DAMP TO ILLUMINATION.

At the recent meeting at Nottingham of the Association of Gas Managers, an elaborate paper "On the Explosive Properties of Fire-Damp and Coal Gas, with Particulars of Experiments made in lighting portions of the Oaks Colliery with Pit Gas," was read by Mr. HUTCHINSON, of the Barnsley Gas Works. Mr. HUTCHINSON observes that it is certain that the coal cannot be worked without at least liberating the gas; it is equally certain that we cannot rely on the numerous and important manufacturing and domestic applications to which coal is now applied (and deemed indispensable) without its aid. It becomes, therefore, a matter of importance to investigate whether this dangerous gas cannot (in some cases, at least) be collected and utilised, for the purpose of lighting the main thoroughfares and other safe parts of the mine, instead of being allowed to circulate, and become mixed with air; thus forming the explosive compound which has at various times committed such fearful ravages. If, therefore, this gas can possibly be so utilised, the subject may one of great interest to an association of gas managers, although gas is manufactured by Nature, without the aid of either stokers or retorts, on a grand scale, of which we have really very little conception. All the apparatus and appliances which we ordinarily think necessary to the carrying on of a modern gasworks are dispensed with. We appear to have no definite idea of the magnitude of the operations or the time taken to conduct the process, yet it is evident to our senses that coal gas is, or has been, made and stored upon a scale so immense as to totally eclipse the idea of even our modern gas engineers. The suggestion then proceeded to give an account of experiments he made at the Oaks Colliery some five years since. It appears that in July, 1862, GEORGE MINTO, then underground viewer, suggested that the blower of gas then existing in the pit, which had been going on some time, and which appeared strong and pure, might be turned to account, such as lighting the mine, and Mr. HUTCHINSON consulted to devise the mode of carrying out the suggestion. He then descended the pit, which was about 300 yards deep, having been provided with lamps at the cabin, went to examine the place. They proceeded down the engine-plane, about 800 yards, which dips about 6 inches to the yard, and then some 500 or 600 yards to the level; all was life and activity; there was a sufficiency of air, and the seam of coal was about 9 ft. thick. They next proceeded to the gas-pit, this is a branch road from the level on the right at the entrance to which was a gate, so that the air could freely circulate through it; this was kept constantly locked, no one but an underground viewer being allowed to have a key.

At length they arrived at the place where the gas is actually issued, which is a small pit or well, about 4 ft. in diameter and 25 ft. deep, and had been sunk three or four years ago to prove the throw or fall of the vein of coal having been suddenly lost at this point. The miners had been compelled to abandon this search for the coal in consequence of so much gas and water being given off as to render it unsafe to proceed further, and had filled up the little pit with any debris. Through this rubbish and water the gas boiled up instantaneously from the seam of coal below with a very violent agitation. It made a careful examination of the place, and this caused a number of questions to suggest themselves, such as—What kind of gas is it? Is it inflammable? Is it given off at a uniform rate or pressure? What illuminating power has it? What is the quantity given off per hour? Can it be conducted to, and consumed in, a safe part of the mine? To answer these and other questions it was absolutely necessary to make some practical experiments should be made at the source where the gas issues, in order to learn something of its nature and properties; so the next day they paid a second visit to the dreary cavern, if such a term may be applied to such a place. On this occasion the gas or fire-damp escaped plentifully, with a loud bubbling roar, hissing noise at the surface of the water, which was 63° Fahr. It might also be heard issuing out of the coal, or crevices of the rock in various situations round about them. It had no smell, or, at least, so slight, that there is a difficulty to find words to describe it; yet it could be recognised by persons accustomed to it. With a large lamp inverted over one of the blowers in the water, and a 6-ft. lamp of India-rubber tubing, the pressure-gauge gave 7 inches. He examined the abundance of gas, filling a number of test-tubes, bottles, and bladders. At the end of this tube the thermometer, held in a stream of gas, indicated 63° Fahr., the same temperature as the water in the pit, then applied the red and blue litmus, lead and turmeric papers, lime-water tests, but no reaction was shown

The pressure in the gasholder could be regulated by opening or closing the valve more or less, and allowing the surplus gas to escape; and, being anxious to prove if the gas was given off at a uniform rate, he set the valve so as to maintain 1 in. head of water, and attached a registering pressure-gauge to the 4-in. pipe, the pressure remained constant—1 in. during the whole 24 hours. He tried various pressures with like results, thus proving beyond doubt that this simple and inexpensive apparatus might be depended upon for collecting and furnishing a regular and constant supply of gas to the mine. He then tested the illuminating power, which he found equal to 10 sperm candles; in one instance he obtained 12-candles, but was somewhat surprised, after repeated trials with COOPER's tube, to find he could get no condensation by the bromine test, although the ordinary coal gas gave 4½ per cent.; neither could he obtain any indication of carbonic oxide or carbonic acid. The specific gravity was .517. The chemical test papers were again applied, as before mentioned, with like results. He found the loudest explosion to occur when the gas was mixed with nine times its volume of air.

At length the pipes were laid, the burners attached, and ready for lighting. Then comes a very critical point. They were anxious to be satisfied that the gas contained in the pipe to which the light is applied is in such a condition at the moment that the light cannot by any possible means travel backwards to the gas pit, and thereby cause an explosion. He felt quite certain upon this point, from observing the pressure and other indications, but in a matter of such importance there should be no room to doubt. For the first light he used an Argand burner, the gas passing through a glass tube filled with shot; after that a ½-in. pipe, about a foot in length, filled with wire, driven in lengthwise, previously proving by direct experiment that it was impossible for a light to run back under such circumstances. The first light was now applied with perfect success, and continued to burn quite satisfactorily; others were now lighted without fear; by degrees some 60 lights were put on, which have continued to burn day and night without intermission ever since that time until Dec. 12 last, on which date a terrific explosion occurred, with the particulars of which most of our readers will be familiar. This caused the death of near 400 unfortunate individuals, 285 of whom remain entombed in the pit, which it was found necessary to close in order to put out the fire. Before finally closing up the pit a 10-in. pipe was placed up the side of the shaft, so as to give vent to the pent-up gases which are given off in large quantities at the present time. Indeed, the mine now appears to be one huge gasometer. On Friday, June 7, the quantity of gas given off was near 50,000 cubic feet per hour. However, the quantity varies considerably with atmospheric changes. An account of the changes which occur in barometer, thermometer, and pressure-gauge is taken every hour, and faithfully recorded in the colliery offices. The gas now given off appears identical with that which he found to issue from the gas pit before named, with the exception that it contains about 3 per cent. of carbonic acid, no trace of which could be discovered in the latter.

#### SUBSTITUTE FOR COAL IN THE MANUFACTURE OF GAS.

Subjoined is the substance of a paper read before the British Association of Gas Managers, at Nottingham, a few days ago, by Mr. E. Goddard, engineer to the Ipswich Gaslight Company, on the application of liquid hydrocarbons as a substitute for Cannel in the manufacture of gas of a high illuminating power:—In many parts of the country is to be found immense quantities of schist, or schist clay, commonly known as shale, from which oleaginous matter can readily be produced, and Letters Patent have been recently taken out by Mr. M'Kenzie for utilising this oil in the production of gas. The invention consists in minutely pulverising 1 ton of bituminous coal, or duff, and intimately combining it with—first, 25, 30, or 35 gallons of crude shale oil or petroleum; or, secondly, with one-half of these oils mixed with one-half of what is known as bottoms, or residue in the distillation of these oils, partly with the view of taking off the water from the oil and thoroughly mixing the thick residues with the light oils, and also partly to produce a quicker and more complete combination of the oil with the coal. Mr. M'Kenzie slightly heats the oils, and in that state, or shortly thereafter, thoroughly mixes and combines them. The quantities of oil used, whether 25, 30, or 35 gallons, are mainly regulated by the quality and quantity of gas desired from the material. If 18-candle gas, or under, be sought, 25 gallons of oil are used; should 24-candle gas, or under, 30 gallons are used; and if over 24-candle gas, 35 gallons are used. It may be that an oil or coal deficient in the properties desired will require 2 to 5 gallons more oil, but that, we understand, to be the extent of the variation.

If petroleum be used instead of shale oil, the results will be better, but there is so little difference that, commercially, shale is the better oil for the purpose. The only other element in the manufacture is the pulverisation of the coal. If the minimum quantity of oil is to be used, the coal requires to be ground a little rougher than when 30 gallons are used, while if 35 gallons are to be used it requires to be very fine. The reason for this we understand to be that the greater the quantity of oil the finer must be the particles of coal, so that the oil may be absorbed. If 35 gallons of oil were put into coal adapted for 25 gallons only, there would be condensation, and the gas would not be permanent to the extent to which the coal could not absorb thoroughly the oil. While the result would be good, it would be much less satisfactory, and would raise doubts as to the permanency of the gas produced. There is no peculiarity about the use of the material. It is charged in the usual way, but requires a little less time in the retorts than ordinary coal, the only thing requiring care in its treatment when first used at any works is that the incision pipes be thoroughly cleansed.

As to the results secured, these have been reported very high, varying from 12,000 to 14,000 cubic feet per ton, according to the quantity of oil used, the illuminating power of the gas being from 18 to 20 candles. The coke produced is of first-rate quality, and this forms one of the valuable features of the invention.

Letters Patent for accomplishing the same object have been secured by Mr. John Hamilton, in which crude coal oil (creosote), or other mineral oil, together with a small portion of naphthaline, are boiled, and whilst in hot state are poured over a quantity of sifted or pulverised coal, known in the trade as "coal dust," coal, culm, or other powdered coal may be used. The mixture may be made in a pug-mill, or other suitable mixing machine, and is then allowed to stand for 24 hours, or thereabouts, so as to permit a complete combination of the gases of the coal with those of the oil and naphthaline. The result is an artificial gas-producing material, and the following proportions are found to produce good effects:—1 ton of coal, 20 to 30 gallons of coal oil, and 5 lbs. of naphthaline. From this mixture the patentee states that he has obtained 15,000 cubic feet of gas of high illuminating power. The patent is held by M'Kenzie. The licence for the sole manufacture of M'Kenzie's patent material has been secured for England by Mr. Thomas Vaughan, of Middlesbrough, who is now erecting large works at Murton, near Seaham Harbour, who will be able shortly to supply the material equal to the best Boghead Cannel, at about half the price of Cannel. Several attempts have been made to employ petroleum instead of coal for the production of gas; and in the State of New York, and other parts of America where petroleum is very cheap and coals expensive, the experiments have proved very satisfactory.

**THE EXPORT COAL TRADE.**—The exports of coal from the United Kingdom have not made any very great further progress this year, having amounted in the five months ending May 31 to 3,832,012 tons, as compared with 3,816,698 tons in the corresponding period of 1866, and 3,501,090 tons in the corresponding period of 1865. In May, however, they presented a considerable advance, having footed up in that month to 1,115,312 tons, as compared with 900,821 tons in May, 1866, and 863,295 tons in May, 1865. The exports to France are still increasing, having amounted in May to 201,385 tons, as compared with 171,315 tons in May, 1866, and 155,910 tons in May, 1865; and in the five months ending May 31, this year, to 858,327 tons, as compared with 747,786 tons in the corresponding period of 1866, and 669,940 tons in the corresponding period of 1865. The exports of coal have increased this year to Russia, Denmark, Prussia, the Hanse Towns, Holland, France, and Spain, but they have declined to Sweden,

Italy, the United States, Brazil, British India, and some other parts of the world. The value of the coal exported in May was £53,654, as compared with £53,728 in May, 1866, and £53,425 in May, 1865; and in the five months ending May 31, this year, £195,609, as compared with £194,110 in 1866, and £183,588 in 1865.

**COAL SHIPMENTS AT BIRKENHEAD.**—The Welsh colliery proprietors are now adopting such measures as will enable shippers of coal to take cargoes on board at Birkenhead on as advantageous terms as those offered at Cardiff and other South Wales ports. The Powell Duffryn Colliery proprietors are offering advantages which, it is believed, will for the future prevent vessels from being taken from the Mersey to load at Cardiff. If the risks of Channel voyage, the double port charges, and other expenses are taken into consideration, it would appear that vessels will sustain a loss by being taken from the Mersey to be laden at the ports in South Wales.

**MACHINERY, &c., TENDERS ACCEPTED BY THE LIVERPOOL TOWN COUNCIL.**—The Liverpool Town Council has agreed to accept the tender of Messrs. Richmond and Norton, for the providing and fixing of the machinery, boiler, tanks, piping, troughs, and stable fittings, in accordance with plan submitted by the borough engineer, at a cost of £400. It was further agreed to accept the tenders of Messrs. Pennington and Hutton, for the supply of a large clock for the municipal offices, at a cost of £400; and of Mr. Warner, for the supply of bells required in connection with the clock, at a cost of £42.10s. The whole of the salaries of the officials and assistants in the borough engineer's department are, it is believed, to be increased, and a recommendation to this effect will be considered at the next quarterly council.

#### THE CHATTERLEY IRON COMPANY (LIMITED).

(FROM OUR CORRESPONDENT.)

The mineral estate held by the Chatterley Iron Company (Limited) under a lease from Mr. Ralph Sneyd, of Keele Hall, is one of the richest and best appointed in the kingdom. The estate is upwards of 650 acres in extent, and five shafts have been sunk, four of which are in operation. The principal of these is shaft No. 4, which is 12 ft. in diameter, and is, therefore, if we mistake not, the largest in North Staffordshire. It has been carried to a depth of 228 yards, and at 230 yards the miners will come upon the red shag ironstone, having a thickness of 5 ft. In sinking to this depth they have passed through a great variety of valuable minerals, and in their further progress it is expected they will come in succession upon the following, among other seams, at the depths named:—Red mottled oil shale, yielding 30 gallons per ton, 249 yards; red mottled ironstone and red mottled coal, at about the same depth; base mottled ironstone, 276 yards; little roof coal, 2 ft. 7 in., 302 yards; peacock coal, 7 ft., 305 yards; Spencroft coal, 4 ft., 320 yards; great roof coal, 9 ft., 352 yards; Cannel row coal, 4 ft., 370 yards; chalky ironstone, 114 yards; Winstay coal, 5 ft., 6 in., 510 yards; Rowhurst coal, 9 ft., 520 yards; Burnswall coal, 5 ft., 672 yards; and twist coal, 3 ft., 650 yards. The strata contain a large proportion of fine clay of first-rate quality; there are several seams of stone, found to yield from 30 to 35 gallons of crude oil per ton, and some of the ironstones contain more than 70 per cent. of metallic iron. The aggregate thickness of all the ironstones, from the half-yards down to the Burnswall, is upwards of 22 ft., and the yield 36,000 tons per acre. The aggregate thickness of the coal seams, from the twist upwards, is 58 ft., producing 58,000 tons per acre. In other words, the estate is estimated to yield to the depth specified 23,790 tons of ironstone, and 37,700 tons of coal.

The alum shale is estimated at 9680 tons, and the total of the oil shales at 41,900 tons, while the fire and blue brick clays appear to be almost unlimited; in fact, putting the matter broadly, and with a view to give in one sentence an idea of the value of the property, the Chatterley Iron Company's estate consists of a cubic mile of minerals, for there appears to be no doubt that it includes within itself all the varied seams of the North Staffordshire coal field, already proved to be more than a mile in thickness. In order to aid the imagination correctly to apprehend the significance of the term "a cubic mile," it may be added that competent persons estimate that if all the earth displaced in the construction of all the railways in the world were heaped together it would not be sufficient to form a solid mass of that extent.

Of course the winning of this vast store of mineral treasure, if ever the whole should be won, will be the work of successive generations; but whatever doubt may be entertained respecting man's capacity to overcome the difficulties incident to mining a mile below the surface of the earth, the machinery already erected by the Chatterley Iron Company is sufficiently powerful to make them masters of the situation to at least one-third of that depth. For the working of Pit No. 4 they have set up a pair of coupled vertical engines with double cylinders, each 30½ inches in diameter, and having a 5-ft. stroke. The engines are of 250-horse power, and might be safely worked at a higher pressure than that figure indicates. They were manufactured by Mr. Edwin Scragg, of Coalition, and are the largest winding-engines in the county. The drum is placed inside the engine-house, and the shaft or axle is about 23 ft. from the floor. Its rim is not parallel with the axle, but it slopes inwards from either edge, so that the outer diameter is 21 ft., while the diameter in the centre is only 19 feet. By this arrangement greater security is obtained in winding than in the case of drums, in which the surface of the rim slopes outwards from the centre, as was conclusively shown some time since by a melancholy accident at Wigan, in which several men lost their lives. It is hardly necessary to add that the house erected for the reception of this fine piece of machinery is of proportionate strength, and in every way worthy of its tenant. The foundations are an almost solid 33 ft. cube of brickwork, and the outer walls, which are also of brickwork, are 3 ft. thick. The inner walls, supporting the engine and the drum, are built of dressed millstone grit, and are also 3 ft. thick; and, in order to give greater stability, the machinery and these inner walls are secured by longitudinal iron plates, bolted at the top and bottom by iron rods, 35 ft. in length.

The pit frame at No. 4 is, however, the greatest novelty. It is composed entirely of wrought-iron, and is the largest and most complete wrought-iron pit gear in existence. It is 63 feet high to the top of the pulleys, which are each 17 feet in diameter, and the whole weight about 16 tons. The uprights, backlegs, and struts are of angle iron at the four corners, braced together by lattice-work. The backlegs are each 75 feet long, and they abut on the engine-house, to which they are tied by strong iron straps. The uprights are tied together with T-iron, and they stand upon blocks of millstone grit resting on solid brick foundations. This pit gear, which has a remarkably light appearance, and has excited great interest, was designed by Mr. C. J. Horner, and manufactured in a highly satisfactory manner by the Hancock Foundry Company, Fenton. It is estimated that the first cost is 25 per cent. less than a pit-frame of wood, and that its strength and durability are much greater.

Pit No. 5 will correspond in size and appointments to No. 4, and will be used for ventilation, in connection with that shaft, and also for drawing minerals. When the shafts in progress are completed it is estimated that the colliery will raise 2500 tons of coal per week, and from 4000 to 5000 tons of raw stone, which will be equivalent to 2500 tons of calcined ironstone.

#### MINING, METALS, AND MINERALS—PATENT MATTERS,

BY MICHAEL HENRY,  
Patent Agent and Adviser, M. Soc. Arts, Assoc. Soc. Eng.

The lists of applications for recent patents relating to the subjects that head this article contain a comparatively large number. They may be thus enumerated:—TUDDENHAM, Lambeth, iron or metal rail rods or bars, for balconies, gates, railings, pillars, standards, or columns, &c.—CROW, Stratford, apparatus to adapt furnaces for creosote and other combustible liquids.—ONIONS, Newport, iron and steel.—M'KENZIE, Glasgow, gas.—SADLER, Chiddington, smoke-consuming.—BARNES, Manchester, metallic pens and penholders.—MILLER, Sydney, New South Wales, toughening brittle gold bullion, refining alloyed gold, and separating therefrom any silver contained therein. (Gold is not frequently the subject of patent applications; it might well be hoped that it proved more frequently the result.)—FLETCHER, Liverpool, artificial fuel.—JOHNSON, Lincoln's Inn-fields (communication from Petin and Gaudet), rolling and shaping metals.—GLOVER, Clerkenwell, furnaces.—FAIRLEY, Loughor, mechanism for preventing overwinding in shafts of coal and other mines—a subject, by the way, which merits and should receive more than mere cursory consideration.—EDWARDS, Wednesbury, lifts or cages and tubes for raising minerals from pits or mines, and for like purposes.—JONES, Blaina, apparatus for getting coal, stone, and other minerals.—THOMSON, Cheapside (communication from the Union Car Spring Manufacturing Company of New York), heating and annealing furnaces.—JONES, Birmingham, coal vase, buckets, and other hollow ware articles.—SIMON, Nottingham, bronzing machine.—HUGHES, Queen-street, and HEAD, Dowgate-hill, rotary pumps.—YORK, Cardiff, steel.—PERKINS, Great St. Helen's, stills for petroleum, paraffin oil, tar, turpentine, &c.—BELLHOUSE, Rochdale, smoke-consuming furnace.—DICKIE, Kilwinning, gas.—SIMPSON, Whitburn, charging and emptying retorts.—REDDICLIFFE, Selegians Mine, Llandilo, buckets for pumps, especially suitable for pumps for mines. (For this last application I acted as agent.)—MCINTYRE, Langham Hotel, pumps, &c.—HOLMAN, Laurence Pountney-lane, pumps.—WILSON and HALE, Newcastle, raising and forcing water.—HALL and PARSONS, Swansea, moulding artificial fuel.—BIRCH, Newton Heath, casting ingots of Bessemer and other steel.—RAFFERTY and STORRY, Manchester, moving, laying down, and jointing metal pipes.—GLEASON, New York, gas burners.—CLERC, St. Mary Ave, lamp-burners for petroleum, spirit, and other volatile liquids.—WEBSTER, Birmingham, metallic zinc paint.—CROW, West Ham, gas from gas-tar or gas-tar.—ATCHISON, Peckham and Southwark, gas and heating.—WATTS and FLEETWOOD, Birmingham, vessels, and forms of metal and material capable of being moulded.—ALSTON, Glasgow, consuming smoke.—FORLONG, Bristol, also for consuming smoke.—TAYLOR, Littleborough, tuyeres for smelters' hearths.—LAKE, Southampton-buildings (communication from Latting), metal ties or bands securing cotton bales. This latter article has formed the object of more than one recent application.

Oppositions intended to the following must be entered on or before the 16th inst.:—STEVENS, securing coal-plates.—HODSON, machines for punching iron or other metal plates.—ARCHER, breaking or grinding stone, ores, and hard materials.—JOHNSON (communication from Muller and Mather), applying hydro-carbons for light and heat.—GOSSI, transporting, warehousing, and bar-

reeling petroleum, oil, or liquids lighter than water.—DULTON, furnaces for heating salt-pans.—RITCHIE and WILLIAMS, drying peat.

Oppositions intended to the following Notices to Proceed must be lodged before the 9th inst.:—FOXLEY, bricks.—Sir J. Y. SIMPSON, utilising mineral oils for heat and light.—THOMPSON, cutting and polishing metals.—WENNEMAN, preventing down draft and ventilation.—CLARK (communication from Archereau), producing oxygen, and applying same for metallurgy.—SHEARD, furnaces.—FASSMANN, New Orleans, metal ties or bands.

The representation of the medals of the Imperial Commission is on view at the offices of Messrs. Johnson, of Castle-street, Holborn, who, the *Times* remarks, were the sole persons through whom the medal, or its presentation, could be inspected. Judging from the inspection, for which I am indebted to the courtesy of Messrs. Johnson, it is, no doubt, a fine work of art as far as execution goes; but in regard to its design, one need not be hypercritical to venture to abstain from unmitigated praise. There is a want of adaptability in it which is noticeable. How can two winged and undoubtably nude Cupids, holding a coffer ready to drop on an eagle, possibly symbolise anything in reference to the applied sciences, or to the progress of industry, arts, and manufactures? This seems difficult even for the most imaginative mind to conceive. One of the first evidences of the advance of manufactures and the useful arts would probably have been to provide clothing for such shameless little heathens. Be this, however, as it may, it is impossible to avoid a feeling of admiration at the extraordinary energy and enterprise evinced in all matters connected with the Exhibition by Messrs. Johnson, through whom, I believe, English prize-holders have had the earliest opportunity of learning the results of the awards.

An interesting specification from Trinidad, relating to evaporating and concentrating, has recently been filed; and COIGNET's last specification in reference to his celebrated beton, or French concrete or cement, is shortly due. These subjects I hope to comment on at some length in a future article.

Among other notable items of the Patent list may be cited:—Sir THOMAS TANCRE, Bart., of Pangbourne, who has applied for a patent (as a communication from Pfarrer Dzierzon, of Silesia) for improvements in bee-hives. The bee-hive, though an appropriate illustration of the industrial world, rarely, if ever before, has occupied a place in the Patent List.—Also, Finland has produced a patent-applicant in the person of a Mr. FRIDOLF HOEK, of Ekenäs, who has sought protection for an invention relating to reeling and furling top-sails; and Prof. BRUNETTI, of Rovigo, has applied for a patent for the lively subject of embalming animal substances for anatomical purposes.

#### FOREIGN MINING AND METALLURGY.

The working of iron minerals in the department of the Ille-et-Vilaine is being developed in a remarkable manner. Considerable quantities of these minerals are sent to England, either via St. Malo or Nantes, where ships take them as return freights on easy terms. The quantity of minerals forwarded in 1864 from this part of France was about 6550 tons, but since then the exports have been further developed. These minerals proceed from the communes of Messac, Fongoy, Renac, and Bain; they supply also blast-furnaces in the Côtes-du-Nord and the Mayenne. The forges of the Haute-Marne are beginning to receive some orders for sheets from the South; sheets are the only article for which the forges of the Haute-Marne can find an outlet in the South, as the forges of the South monopolise their own localities in business in merchants' iron. The Bessemer steel rails, which are being supplied to the Paris, Lyons, and Mediterranean Railway Company, are understood to be submitted by the company's engineers to very severe tests. The stock of pig in the Moselle district is considerable, but is not considered to be increasing. White pig has been sold at 2L. 14s. per ton in warehouses at the works, but this price is only exceptional, and many works would not enter upon contracts at less than 2L. 15s. to 2L. 16s. per ton. Mention is made of an important order for rails given by the Eastern of France Railway Company to the house of Wendel. Refining pig continues to be quoted at 2L. 17s. 6d. per ton in the Meurthe group, but orders are scarce, as well as for rough pig. The quotation for warrants has not varied. With regard to the French coal trade, it is remarked that the department of the Haute-Loire possesses important mineral resources, which are not yet fully turned to desirable account as well in consequence of the want of good and economical means of transport, as of the insufficiency of means of extraction and works of establishment. The production of the collieries of the Brassac basin, nevertheless, exceeded 130,000 tons in 1865; we have not at hand the figures showing the production of 1866, but it is believed to have been below that of 1865. The most important concessions of the basin are Gros-Ménil, La Trampe, Barthes, and Mége-Coste. The department of the Ardèche possesses six mines of coal, of which two are unworked: the collieries in working are of little importance, but the extraction, which was in 1864 only 4200 tons, rose in 1865 to 9650 tons. A new concession was granted in July, 1865, to MM. André and Montravel; the coal earth is found in this concession at a depth of about 800 feet. Meetings are announced as follows:—Bank of Mines, July 15, at Paris; and Huéla Copper Mines Company, July 27, at Paris.

The exports of minerals from Belgium during the first four months of 1867 amounted to 52,266 tons, showing an increase of 10,300 tons as compared with the corresponding period of 1866. The exports of pig only attained a total of 3300 tons, showing a considerable diminution (2977 tons) as compared with the four corresponding months of 1866, when they amounted to 6277 tons. The chief falling off has this year been in the deliveries to the Zollverein, which only took 57 tons, instead of 1767 tons, in the first four months of 1866. The exports of rails from Belgium in the first four months of this year amounted to 32,405 tons, showing an increase of 13,980 tons over the corresponding period of 1866. The deliveries of Belgian rails to Russia figured in this year's total for 29,465 tons, as compared with 3300 tons in the corresponding period of 1866; the deliveries to other countries present, then, a diminution of 16,000 tons to April 30 this year, as compared with the exports of the first four months of 1866. The exports of plates from Belgium declined 1100 tons during the first four months of 1867, only amounting to 4550 tons. In merchants' iron the diminution is 2800 tons, on a total of 17,900 tons exported in the first four months of this year. During the same period of 1866 the exports were 19,800 tons. The imports of minerals, which had been 106,136 tons during the first four months of 1866, only amounted to 80,685 tons in the corresponding period of this year. The Belgian iron trade does not display any material change; if anything, matters have changed for the worse, prices being badly supported, while the general tendency is downwards. We omitted to state that the imports of English pig into Belgium rose in the first four months of this year to 15,800 tons, as compared with 7000 tons in the corresponding period of 1

197. 12s. per ton. At Marseilles, lead in saumons, first fusion, has made 182. 8s.; lead, in shot, for consumption, 207.; and rolled in pipes, 217. per ton. The zinc markets are in nearly the same state as hitherto; at Breslau and Hamburg the demand has shown little activity, but former rates are almost generally maintained by holders. At Paris, rough Silesian has been quoted at 227. 8s.; zinc from other sources, 227.; and Vieille-Montagne rolled zinc, 237. per ton. At Havre zinc has brought 227. to 227. 8s. per ton.

## REPORT FROM SCOTLAND.

JULY 3.—We have had another very unsatisfactory week in our Pig-Iron market, although the decline in prices has been reversed, and an upward turn, with a slight degree of firmness, has been experienced. Considerable hopes were entertained that the resolution of the ironmasters to restrict their make till the end of the year would have enhanced prices, and brought buyers into the market. But buyers are shy, and are only purchasing for immediate shipment. This absence of demand keeps prices low, and prevents the reduction in make and stocks, and the increase of shipments on the year till date from producing their natural results—enhancement of prices and activity in business. The shipments of the week just ended keep under those of the corresponding week of last year fully 1300 tons, the totals being—this year, 12,245 tons; last year, 13,560 tons. This, however, still leaves an increase on the year of fully 44,000 tons, while on the stocks in store there has been a reduction of close on 8000 tons. The following is an account of stocks, deliveries, &c.

Total stocks in Scotland on Dec. 25, 1866, as per the official estimate of our committee (excluding 85,000 tons Carron) ..... Tons 425,000  
In the hands of the makers on June 29 and at exports, as per returns. 111,315  
In the stores of Connal and Company ..... Tons 230,271  
Forth and Clyde Canal Company ..... 18,897

In store at Ardrossan ..... None = 249,168 = 360,483

Total decrease of stock in six months ..... Tons 64,517

Deliveries from store this year:—

	Jan.	Feb.	March.	April.	May.	June.
Connal & Company	Tons 12,500	12,057	15,493	14,147	9,911	6,578
Forth & Clyde Canal Co.	2,475	2,417	1,322	2,754	701	1,382
Ardrossan	—	—	—	—	—	—
<b>Totals</b>	<b>14,975</b>	<b>14,474</b>	<b>16,815</b>	<b>16,901</b>	<b>10,612</b>	<b>7,964</b>

Making a grand total of 81,741 tons. The largest quantity of pig-iron in store was on May 16, 1866,—say, 537,668 tons; so that at this date it has been reduced 288,500 tons. According to arrangement on June 26, the makers blow three-fourths instead of two-thirds of the furnaces up till Dec. 31, 1867,—say, 115 as a maximum.

To-day there was little animation in the market, and only a limited business reported. At the close buyers offered 53s., sellers held for 53s. 1d. Gartsherrie, No. 1, 62s. 6d.; Coltness, 62s. No. 1, g.m.b., 53s. 9d.; No. 3, 52s. 9d. Manufactured Iron is now getting brisker, orders being more numerous for autumn shipments, and this improvement is likely to be continued for some time, but prices are still very depressed and low. There is no change in quotations, but makers are not enforcing rigidly the price list. Shipbuilding iron is also in better request, but plates do not nearly equal in demand the productive power of the mills, which are not half employed. Messrs. Randolph, Elder, and Co., the shipbuilders and engineers here, having taken a prize gold medal from the Paris Exhibition, for ship models, Messrs. Napier and Son having carried away one of three great prizes which comes to this country for lifeboats, and other matters relating to navigation, and Messrs. Derry, Dumbarton, having gained a silver medal for their eminence in shipbuilding, &c., may do the trade here some good, as the French built ships are not moulded on the fine lines of Clyde makers, and are generally deficient in sailing powers. Pipe founding is very brisk, but the makers of mains and architectural castings are not generally fully employed. The tin-plate works at Coatbridge being now well manned from England, principally from Wales, they have again started business in earnest, and are said to be stocked with orders, which is cheering amid the general depletion. On Monday a moulder, residing in Stenhousemuir, was brought up before Sheriff Bell charged with wantonly breaking a pattern belonging to the Carron Iron Company, and was fined 30s. or, failing, 30 days' imprisonment for his malicious conduct.

Coals remain dull of sale, with few orders for home use, but a fair shipping business doing. During the week 23,705 tons are entered as shipped foreign and coastwise, as compared with the higher sum of 24,640 tons in the corresponding week of last year. Coal masters are not pressing for orders, on account of the high price of labour, which is interfering with their power to compete with other ports.

It cannot be too well known throughout the length and breadth of Cornwall, or wherever there are unemployed miners, that labour is scarce in the whole of the mining districts of Scotland, and that the men "refuse" to labour more than four or five days a-week, unless when it is to serve their own ends. Miners in Cornwall need not longer stand with their hands folded, appealing to the charity and sympathy of the nation for funds on which they and their families might live, or for help to emigrate, as industrious and willing miners may have plenty of work, if they will only choose to have it, at wages which would yield them a very fair subsistence for a short day's labour. In the Wishaw district the partial strike continues, the men refusing to go in unless they receive 4s. 6d. a day for eight hours' labour, while all around the miners are only in receipt of 4s. In this singular condition they are supported by the Union, who seem determined to keep them on strike pay for some time longer. Last Saturday they got rather alarmed at a paragraph in an Edinburgh paper, stating that a "new phase was about to be given to the present struggle by a unanimous strike on the part of the miners throughout the district." This the men at once repudiated, fearing lest the masters, on information like this, should at once convert this partial and ill-advised strike into a lock-out, which yet may be the case.

Scotch coal oil is dull of sale, there being only a limited demand, and almost none making. This is sending some of our oil distilling firms into the *Gazette*, and we have this week to add another, that of James Palmer and Co., Crown Point Oil Works, Glasgow, and at Bathgate. On the other hand, Young, of Bathgate, has carried off a gold medal at the Paris Exhibition for his paraffin candles.

## REPORT FROM NORTHUMBERLAND AND DURHAM.

JULY 4.—The Coal Trade at present is more quiet than it has been during the past few years, the continued depression in the Iron Trade having considerably affected it of late. Complaints are heard of deficiency of orders for coals and coke at various places, and stocks have lately accumulated. At this season gas coal is in limited demand, of course also house coal, and this joined to the depression in iron, begins to be rather seriously felt, and the prospect is not so good as might be wished for. The Iron Trade—that is, the trade for rolled plates, bars, and castings—is so devoid of spirit, that very few indeed of those concerns are well employed, and reductions are projected, in some cases, of the make—that is, the works are to be partly, and in some cases entirely, stopped, unless the demand improves shortly.

The death of Mr. R. Hawthorn, of Newcastle, although it has been feared for some time, is an event much regretted by the engineers and mechanics of Newcastle. The name of Hawthorn has long been a household word in the North. The founder of the family was, we believe, a colliery engineer, and a contemporary of the celebrated Stephenson. Born in the same district, and largely gifted with mechanical genius, sterling integrity, and untiring industry, the fame of Hawthorn and his successors is only second to that of the great George himself. Engines of all kinds recognised in mines, railways, &c., have been manufactured at Hawthorn's works, in Newcastle, and they will bear comparison with those made at any other similar concern—that is, so far as the materials of which the engines are composed, and the workmanship are concerned. But it must also be borne in mind that the Hawthorns have been very much concerned in bringing the steam-engine to its present state, many important improvements in connection with all kinds of engines having originated at these celebrated works. The funeral of the deceased gentleman took place on Tuesday, and the procession was joined by upwards of 500 artizans from the works at the Forth. The engine works of Messrs. Stephenson were also closed for half-a-day, and the funeral was attended by a large number of gentlemen, officials, and others, from the works of Messrs. Stephenson, Messrs. Abbotts' works, and Hawks, Crashey, and Co., of Gateshead, and the procession was closed by a long train of private carriages.

Several very important meetings have been held lately in connection with the Miners' Relief Fund of these two counties, and the re-

sults shown at these meetings demonstrate most clearly that this most useful fund is now making rapid progress. For some time after the formation of the society the progress made by it was only slow, but the bulk of the men have now evidently become convinced that it is a most useful institution, and where it is once established at a colliery the bulk of the men join it. At Cramlington Colliery a most interesting meeting was held in connection with the branch established there. At the evening meeting Mr. E. Potter occupied the chair. Mr. Hobkirk, the local secretary, said that the branch was established on May 2. It commenced with 40 members, and now there are upwards of 250. Besides forming a branch of the permanent fund here, they had started another fund, by which disabled members would be provided for during the six weeks which elapsed before they get relief from the permanent relief fund, and this also is going on satisfactorily. Another important meeting was also held at the Bedlington Colliery branch of the society, on Saturday. This was the first anniversary meeting at this place, and a public tea and concert was held. From the report read by the secretary, it appears that there are 89 members on the books, a considerable number, certainly, although the progress made has not been so rapid as at the Cramlington Colliery.

The state of the coal miners in these two counties is, on the whole, certainly better than at any former period—that is, they have better houses to live in, are better paid, and are better informed and educated than formerly. At all new works where dwellings are erected for them a class of buildings are erected of a much superior kind to those formerly provided for this numerous and useful class of men; and, as the new houses are constructed with due regard to the health of the inmates, the physical as well as the moral improvement of the people is a natural result. There is also generally attached to these dwellings a portion of garden ground, which the men can and do cultivate, much to their advantage. But, unfortunately, there are a considerable class of men who do not settle permanently at any works, and those men, when they do enter into an agreement, either monthly or yearly, frequently fail to fulfil their engagements; and they not only impoverish themselves, but inflict considerable injury and loss on many unfortunate coalowners, as great expense is caused by removing them from one work to another, and also by furnishing them with houses, &c., for which they give no equivalent in the shape of an adequate amount of labour.

The first shipment of coals from the Cambois Colliery was completed on Saturday, on account of Messrs. G. Blake and Son, Yarmouth, on board the brig Jay, of that port. The coals were shipped from the staiths, recently erected on the north side of the River Blyth, along a new railway made from the colliery about one mile in length.

Very little notice appears to have been taken of the circumstance that at Monkwearmouth Colliery, on Wednesday week, an accident occurred under precisely similar circumstances to those which happened just previously at Washington and Walbotton. The accident was of small account in this respect, that there was very little damage to property, no injury to limb, and no loss of life. But I think it is some importance to give a warning. I understand the cage of the B pit, containing tubs of coal, was being brought to bank, when the mark was missed, and the cage drawn up to the pulleys. The rope broke, but happily the cage did not fall down the pit. The concussion threw it within the shed, where it stuck fast among the beams over the heads of four men who were standing below. It seems very remarkable that three accidents of a similar character should occur one after the other in this way, and I think it demonstrates very clearly that something ought to be done by the colliery owners to guard against them in future.—*Newcastle Daily Chronicle*.

## REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

JULY 4.—The state of the Iron Trade offers no point for specific observation. The week before the quarterly meetings is usually quiet, and we must wait until Wednesday and Thursday next, when the great gatherings of the trade will take place at Wolverhampton and Birmingham to form a judgment of the probable state of trade during this quarter. It may be said, however, that there is no reason to fear a reduced demand, and some good grounds for anticipating a gradual though not rapid improvement. In the Hardware Trades, though complaints are general, the balance of testimony is in favour of the opinion that the tendency is towards improvement. The makers of gun-locks and guns are busy after the long season of slackness; and at Darlaston, where this is an important branch of manufacture, an extensive establishment for the manufacture of the heavy wrought-iron work is about to be erected.

The Labour Legislation, which is occupying the attention of a Select Committee of the House of Commons, to which the two Bills of the Government on the subject have been referred, was, as stated last week, the subject of discussion and strong resolutions by the South Staffordshire Ironmasters' Association last week. A circular has since been issued by Mr. Walter Williams, jun., the hon. secretary of the association, inviting the attendance of persons interested in the trade at a meeting at the Westminster Palace Hotel, on Saturday, "when the trade will be able to explain their views" on the subject. The circular points out that the representatives of the iron and tin-plate trades of England and Scotland urged upon the late Home Secretary the reference of the Bills to the consideration of a Select Committee, on the ground that they were based on "the third report of the Children's Employment Commission, which was unfair, not trustworthy, and, therefore, injurious to the iron and tin-plate trades;" and that they might have an opportunity of offering evidence to rebut the statements in that report, and also to "point out that the exigencies of their trade required special considerations and peculiar enactments." These trades, therefore, feel greatly disappointed and aggrieved that the Committee decline to take evidence, and state that "We have reason to believe that they have informally been taking steps for arranging with other trades, in such a manner as will stay their opposition to the Bill, thus hoping to override such reasonable opposition as the iron and tin-plate trades consider they are compelled to offer to it, and thus pass it through the House in what, to us, seems an unfair method."

If the Select Committee be really "dodging" in this way, no words can be too strong to condemn a course so unworthy of a branch of the Legislature of the nation, however good their motives may be. There are, however, one or two observations which should be borne in mind in endeavouring to form an impartial judgment on the question in dispute. Whether the report of the Commission was or was not fair, it is pretty plain that the measures of the Government were not based upon it in any important degree, as the legislation proposed is general, and has no special reference to the particular trades to which the report referred. On the other point, that there are exigencies in the iron and tin-plate trades requiring "special considerations and peculiar enactments," it is clear that a Select Committee which does not afford an opportunity for representations being made on this point from trades affected is ignoring its object; but whether that can be done as well by written memorial as by oral evidence is another question. It must be acknowledged that too often committees are a kind of soft pillow for smothering legislative effort in a soft and gentle, but none the less effectual, manner.

On the general question of imposing legislative restrictions upon juvenile labour, with a view to improve the mental and physical development of the rising race, most thoughtful people will admit that there is a need for improvement in this direction, and that at present progress is slow, and that especially the protection of children from the too great eagerness of parents to send them to work in early youth is called for, and that with a view to our future national progress the wide communication of elementary instruction is of vital importance, and no less so in reference to our political well-being, now that the wages class will hold the national balance by forming a preponderate majority of the electors. Equally will it be asserted that such legislative interference will, in many cases, create inconvenience, and that should it seriously check productive power its good effects would be too dearly bought, and that it would probably be reversed by a reaction in the public mind. If the Committee and the representatives of the great trades of the country can consult in the spirit of these two views, great advantage would ensue; but it is very desirable that their relation shall not be that of distinctly marked advocacy of legislative regulation on the one hand, and of wholesale opposition to it on the other. Now, the first proposals of the Iron Trade were rather of a sweeping character. They desired that on proprietors of ironworks agreeing not to employ children under 12 years that they should, in effect, be exempt from interference at all, for the proposals that a half-day holiday was to be given

once a week, and four days in a year, and that young persons should not work more than seven nights per fortnight, except to make up for lost time from accidents, were really not worth making the subject of legislative action. There are, however, many objections to the Government Bills as first introduced, and one of the greatest is that they would not be generally enforced, in which case they would be mere traps for informers, and would most unequally affect different persons and places. Hitherto all legislation of this nature has been cautious, and the way to enforce it strictly has been provided; and it is a question whether it is not desirable to narrow the range of the Government proposals, and more certainly secure their strict enforcement.

As previously stated in one of these letters, two men were killed and several injured, by an explosion on June 7 last, at the Fenton Park Colliery, in the Staffordshire Potteries. Mr. Booth, the coroner, presided over an adjourned inquest on the deceased on Monday, at which Mr. Wynne, the Government Inspector of Mines, was present. It was proved that the presence of gas in large and dangerous quantities was well known, and was frequently represented to Mr. Thompson, the manager, and Philpot, the butty, and that these two disputed whether the proprietors or the butty ought to erect walls to divert the air-current to the headway, where the gas was prevalent. One of the witnesses, William Lever, who had been an underlooker for several years, in answer to Mr. Wynne, said he had never seen or heard of such a state of things as these workings presented. It was stated that firing shots was forbidden, but one was fired, and the accident occurred from it, and it was clear that the practice was the rule, and that no one found fault. Mr. Wynne said he had never seen anything like the neglect of precautions shown at this mine. The jury passed verdicts of "Manslaughter" against both the manager and the butty, who await their trials at the ensuing assizes.

At the Newcastle County Sessions, on Monday, Mr. Pearson, manager of the Crewe Coal and Iron Company, was, on informations laid by Mr. Wynne, the Inspector of Mines, fined 12. and costs, for neglecting to establish rules at the colliery, and 42. and costs, for giving notice of an accident. At the same sessions Mr. Wynne charged John McCready, a butty at the High Carr Colliery, with a breach of the 18th Special Rule, bearing on the timbering of the workings. Mr. Booth, attorney for the prosecution, stated that in consequence of the place where two men were "holing" in the mine not being properly spragged, a fall took place, and one of them was killed. Mr. W. O. Crewe appeared on behalf of the defendant, and said that there was plenty of timber in the pit, and that he told the men to use it and be careful; but that the unfortunate man who was killed said that it was not safe as a house. Mr. Wynne adverted to the importance of the spray of life had been saved, and he was determined to enforce the law. Mr. Booth stated that 11 feet had been undermined in this case, and not a single spray placed. Mr. Crewe submitted that the accident was solely attributable to the man's own carelessness. The defendant had spoken to him only half-an-hour before. Mr. Wynne called attention to the fact that butties could summon their men for breaches of the rules. Mr. Campbell, one of the magistrates, said that the case disclosed great neglect and carelessness, and that the magistrates would not be doing their duty if they did not inflict the full penalty. The defendant was then fined 40s. and costs.

On Friday evening two men lost their lives at the Adderley Green Colliery, at Longton. They were at work stoking a shaft, which was 120 yards deep, when a mortar bowk fell down and killed Dunn at once, and Knight was dreadfully injured, and was removed to his own home in a cart, and subsequently to the North Staffordshire Infirmary, where he died at 2 o'clock on Saturday morning. An inquest was held on Tuesday, before Mr. Booth, coroner, at which Mr. Wynne, the Government Inspector of Mines, attended. It appeared, from the testimony of Moses Tunnicliffe, that when the mortar bowk fell the brick bowk was hanging over the top. An order was shouted up the pit for bricks. The banksman ought to have pulled the mortar bowk away from the mouth of the shaft, and if that had been done it could not have fallen down the pit. The banksman said he had only worked at the pit three times before, and that he thought the bowk was landed; but he looked away at the moment to another that was about to be lowered, and he did not know that the bowk had fallen until, asking the cause of the noise, he was told. The jury returned a verdict of "Accidental Death," expressing an opinion, however, that the banksman had been guilty of gross carelessness, but not of such culpable negligence as would warrant a verdict of manslaughter.

An account of the works of the Chatterley Iron Company appears in another column of this day's Journal.

NORTH STAFFORDSHIRE IRONMASTERS' ASSOCIATION.—The quarterly meeting of the North Staffordshire Ironmasters Association was held at the Railway Hotel, Stoke, on Thursday afternoon. There was a good attendance, and Mr. Wragge (Chairman) presided. No alteration in prices was made. The trade in all its branches was reported to be quiet, as it had been throughout the past quarter. The demand for finished iron was stated to be insufficient to keep the works going more than four days a week on an average. In pig-iron the make was going into consumption, but without an improvement in price. Ironstone sellers reported a steady demand, but not on an increased scale. With reference to the Factory Act Extension Bill, the following resolutions were unanimously passed:—"That this meeting considers that the refusal of the Select Committee of the House of Commons to receive evidence on the Factories Act Extension Bill will inflict a great injustice on the iron trade. The ironmasters claim to be amongst the best friends of education, and there is no indisposition on their part to be placed under the operation of legislative enactments as to the employment of woman and children; but the present Bill is unsatisfactory and oppressive, and will tend to materially increase the cost of production, without securing any corresponding advantage, and will create great and unnecessary hardship and injury to both employers and employed. That this meeting requests the secretary to communicate with the members of this district, and urge them to use their most strenuous efforts to get evidence from the ironmasters received by the Select Committee on the Bill."

## REPORT FROM DERBYSHIRE AND YORKSHIRE.

JULY 4.—Business continues moderately good in nearly all parts of Derbyshire, so far as the iron trade is concerned. There is a very fair demand for most qualities of manufactured iron, whilst the furnaces are nearly all in blast. Pipes, gas and water, hoops, sheets, and rods are also in request, and most of the forges are kept actively going. So far as regards the manufacture of rails, which has been very quiet for some time, there is a much better prospect, owing to the quantity which will be required to meet the wants of several large companies who are now in the market. The great extension of railways in Russia will evidently give considerable impetus to the trade, and keep makers busy. Already, considering the late period at which the Baltic was open, the returns are highly satisfactory, and give every promise of a busy season. Of railroad iron alone there was exported to that country in May to the value of 97,693L, and hoops, sheets, and plates worth 8718L. The exports of all kinds of iron and steel goods to Russia for the last two months have been very large indeed, and will doubtless increase. The Coal Trade remains without much alteration, and although several of the collieries have been sending a full average tonnage to London, others have been doing little or nothing. The returns of coal entered into London by railway are in every way satisfactory, and show a considerable increase in the quality sent. From Clay Cross the returns for June are 22,831 tons, against 19,000 tons for the previous month. At Staveley, also, there has been a slight increase, and it is expected that now the first half of the year has turned matters will gradually yet surely improve. The entire quantity carried into London by railway for June was 230,344 tons, of which Derbyshire carried rather more than two-fifths.

Trade in Sheffield, in most branches, is only indifferent, steel being the best employed, and just now there are some fair orders for exportation in hand, and also for edge tools and files. The Trades Unions Commission continues the great attraction, and the hall is daily crowded with working men anxious to hear the proceedings. This week has again seen the disclosure of another murder, equal in cool atrocity to that confessed to during the previous week. A file-grinder named Renshaw, with remarkable coolness and disgusting bravado, stated that he threw a canister of gunpowder, to which was attached a fuse, into a bedroom of a house occupied by a man named Wastnidge, whose great offence was that he did not belong to the Union. In the room in bed at the time was a dressmaker, named O'Rourke, who was so severely burnt that she died shortly after. The house was set on fire, and the obnoxious non-unionist and his wife severely burnt also. Of course, all those persons who have admitted committing wilful murder, being accessory before and after the fact, and inciting as well, escape all punishment by being furnished with a certificate from the Commission. Still, with such startling facts brought into daylight, it is astonish-

JULY 6, 1867.]

## THE MINING JOURNAL.

453

ing to find the perpetrators of such damnable deeds obtaining some show of sympathy from their fellows. In leaving so painful a matter, it is somewhat surprising to find Mr. M'Donald, the president of the Miners' Association, taking credit to the miners for having been instrumental in obtaining the proposed Commission of Enquiry, "as the Association had everything to gain, and nothing to lose from a searching enquiry." But what is the fact? Not more than eight miles from where the Commissioners are sitting, a short time since, a few non-Union colliers were attacked in a most brutal manner by Unionists at one of the Thorncliffe collieries. One man had two or three ribs broken, and several others were more or less injured. A little further back, and we find that a man was thrown into the canal near Swaithe's Main Colliery, for some such thing as working when others refused. Another, out of many instances, may be given with regard to the Oaks Colliery, where there was a dispute some two or three years since. At that time the men at work had to be escorted to their homes by the police, and even then the men did not escape from assault. They were surrounded by hundreds on every occasion of being seen in the street, and scared into their homes. On that occasion a number of persons were committed to the Leeds Assizes for trial for riot or conspiracy, and several of them convicted. With those facts, it is rather surprising to find persons making remarks with a desire to uphold the purity of their own trade at such a time, when they must well know that an enquiry into the acts of those who pay them would not be attended with any very congratulatory results. It may be, and doubtless is, quite true that the leaders are not the men to be guilty of inciting other persons to do anything which is contrary to law, but then the rank and file act very often independent of them.

The Iron Trade in South Yorkshire is in nearly every department improving, and there is now a very fair business being done in most qualities of iron, including sheets, hoops, and plates. There is now a very good business doing with Russia, but as yet the rail mills continue very quiet. Makers of Bessemer steel are busy, there being a very large demand for rails of that material for India, America, and for the home railways. In Coal there is very little change, there being, however, rather more doing with London, as merchants are beginning to lay in stocks for the autumn trade. Gas coal is also in rather better request for the Continent, so that more is being forwarded to Hull and Grimsby.

The work of clearing the No. 1 shaft of the Oaks Colliery is now being proceeded with, and up to-day it has been reduced nearly 50 yards, leaving about 120 yards still remaining. Proceeding at the present rate, in about a month's time, provided there is no interruption, it is expected that the bottom will be reached. In the cupola shaft, which was formerly the drawing pit of the old colliery when sunk 40 years ago, the water has sunk about 40 yards. This it appears has been caused by the water finding its way through an old shaft, which was filled up some 20 years ago, and by which it will go into the workings. The temperature at the bottom of the pit, which is taken hourly, shows that it is much lower there than on the surface, seldom reaching 60°. Everything so far appears satisfactory, and there is now some prospect that in a comparatively short time the workings will be opened out with a view, in the first instance, to the recovery of the bodies.

## REPORT FROM MONMOUTH AND SOUTH WALES.

JULY 4.—The prospects of the Iron Trade are not so discouraging at the commencement of the new quarter just entered upon as they were at the commencement of the previous one, although it cannot be said that the present quarter has been entered upon under the best of auspices. At the commencement of the quarter just ended everything looked gloomy, hardly a ray of hope for improvement appearing anywhere, and the business of the country seemed to have arrived at a dead lock. Since then, however, railway securities have become more negotiable, and monetary matters generally have assumed a somewhat easier tone, although, comparatively speaking, it must be admitted the improvement experienced is a very small one. To a great extent, the confirmation of the old prices was, under the circumstances, anticipated in this district, and now that prices for the next three months are settled, it is to be hoped that buyers will show more readiness to enter into transactions. No fresh engagements of importance have as yet been secured, and before makers are able to form a reliable opinion as to what the requirements of consumers will be, at least three or four weeks must elapse. There is no doubt that a good many specifications for railway iron will be offered should the necessary funds be forthcoming. Tin-plates are more enquired after, and prices are somewhat firmer. At the quarterly meeting held at Gloucester, on Wednesday, it was decided to fix the prices at 30s. per box for charcoal, 1C, delivered at Liverpool, and other qualities in proportion. The Steam Coal Trade is characterised by a degree of quietness, and quotations are not so well maintained as might be desired. The enquiries from several of the continental markets have increased, but the resources of the district are now of such a character that there must be a large increase in the consumption before the collieries will be anything like fully employed. The exports keep about the same as reported last week to the West Indian and other mail-packet stations. A quantity of coal is sent to Birkenhead for shipment, although the exports have somewhat slackened of late at that port. The proprietors of house coal are doing a moderate coasting trade, the returns showing but little variation from last year.

The Tredegar Iron-Works will, in all probability, shortly change hands, the present proprietors, Messrs. Forman and Fothergill, who recently purchased Mr. Homfray's interest in the concern, having decided upon retiring altogether from the iron trade.

It is satisfactory to state that South Wales has come off at the Paris Exhibition in a manner highly creditable to the various iron and coal exhibitors. The Dowlais Iron Company have been awarded the silver medal for their specimens of cast-iron; and included in the British bronze medallists are the Aberdare Coal Company, the Blaenau Company, the Bodringalt Coal Company, and the Blaenau Coal Company.

The circumstance of an explosion at the Mountain Pit of the Yaguboren Colliery, Aberdare, caused by a thoughtless workman, with a naked candle in his hand, chasing a rat into some old workings full of gas, has already been detailed in the *Mining Journal*. Five men were burnt—one to death, and two more have since fallen victim to this piece of folly.

THE TIN-PLATE TRADE.—On Wednesday the quarterly meeting of the Association of Tin-plate Makers was held at the Bell Hotel, Gloucester. There was a tolerably good attendance of the members of the trade, and the buyers were represented by several Liverpool and London firms, including Nash and Co., Liverpool; Whittemore and Co., Liverpool; Von Dadelzen and North, London, &c. Mr. Woodruffe, of the Machen Works, occupied the chair. The tone of the meeting was, upon the whole, satisfactory, and the prospects of the trade were represented to be favourable. The enquiries on account of the United States have somewhat increased within the last few weeks, and the total exports to the foreign markets since the commencement of the year have considerably exceeded the exports in the corresponding period of 1866 or 1865. In the home demand there is but little fluctuation to note since the last quarterly meeting. It was unanimously decided to fix prices for the ensuing three months at 30s. per box for charcoal, 1C, delivered in Liverpool, and other qualities in proportion. Reference was made to the efforts of the committee appointed at the last meeting to obtain certain modifications in the clauses of the Factories Act Extension Bill, now before Parliament; and it was resolved that the Chairman, Mr. Gilbertson, and Mr. Conway should attend the meeting of ironmasters to be held at the Westminster Palace Hotel in connection with this matter. Some of the clauses are considered to be injurious to the tin-plate trade. After the meeting the members, as usual, dined together.

LLANMORLAIS COLLIERY, PENCLAWDD (opposite Llanelli, South Wales).—We are glad to learn that last week a 6-foot seam of good bituminous coal was cut through at this colliery, being the fourth seam—aggregate thickness, 17 ft. 8 in.—that has been cut through, besides six seams of ironstone of good quality, with Cannel coal and bituminous shale, proving beyond doubt the mineral riches of the Llanmorlaus valley. The colliery is owned by Mr. R. B. Christopher,

Penclawdd, who, it is gratifying to find, has been so successful, after his perseverance, in making these discoveries.

ELY MERTHYR COLLIERY COMPANY.—At the fifth annual meeting of shareholders, to be held in London, on Monday, the following report from the directors will be read:—

"The directors regret that the results of last year's operations at the colliery have not been satisfactory. The great outlay that has been made upon the works has not yet begun to yield the return that might have been desired. The company has proceeded with the development of the colliery, but the difficulties have been greater than could possibly have been anticipated. As stated in the last report, he has erected coke ovens; 15 of these have been in work, and fifteen more will be shortly completed. The pit on the No. 3 seam, on the south side of the estate, has been sunk to the depth of 75 yards, and a new and powerful steam-engine (with boiler) has been erected to raise the coal. The workings on No. 3 seam, opened by the company, were continued by the tenant, and the hopes that were entertained of a very large getting have been entirely frustrated. Owing to the softness of the coal, and the tenderness of the roof, the whole of the work has fallen in, and rendered this portion of the property quite unproductive. It will be seen on reference to the accounts that under the agreement of May 15, 1865, there are considerable sums (over £2000.) due to the company. The amount of royalties is calculated upon an output of 100 tons a day during the last year. This quantity of coal could not be raised, or anything approaching to it, the directors have felt that to enforce the payment thereof would stop the further progress of the works, and bring the whole concern to a standstill. They have, therefore, permitted the payment to remain in abeyance, in order that all the resources of the tenant might be brought to bear upon pushing forward the works, that a steady and increasing output might be ensured."

SHACKLEFORD, FORD, AND CO. (Limited).—The shareholders in this company have received further reports in reference to its proceedings, from which it appears that the committee had an interview with the directors on Saturday, to receive the replies of the proprietors wishing the continuance of the company or desiring to retire therefrom. The shares registered are 14,604. Returns for continuing the company, £846; for retiring, £73; but as nearly half the returns had not been signed, no decision could be given as to whether the stipulated two-thirds could be gained. The committee report that the directors decline to recognise their liability for £8,461, paid to Shackleford, Ford, and Co., for the goodwill; that the directors engage to recoup £500, advanced to the Spele Works, and also discharge all liability with reference to the £2000. advanced to Shackleford and Ford. Mr. Handel Coshman agrees to pay £1. on 500 shares, for which he signed the Memorandum of Association, subject to the continuance of the company; and Mr. Trevor A. Williams £1. on 100 shares, unconditionally. And with reference to the cheques irregularly drawn, involving the disputed banking account of about £24,000, the bankers are willing to allow 10,000, the company to pay 10,000, and the directors the remaining 4000.; proposals, however, made without prejudice, and subject to the continuance of the company. The committee also state that stock will be taken, and the books made up to June 30, and a statement of accounts placed in the hands of the shareholders, prior to the general meeting, at which the directors would retire, and the appointment of new directors, with the option of continuing the company, will be in the hands of the proprietors; and they suggest that the joint committees recommend persons qualified. The committee regret that they have not had more favourable deliberations, and decline further responsibility in advising the shareholders, as there were two courses open—either to go on or wind up under the supervision of the Court of Chancery, in which case every question of liability would be determined legally; two of the committee dissent from the last sentence. The directors, in their circular, point out the importance of continuing the business, and urge the shareholders to do so. The general meeting is fixed for July 18, at Cheltenham, when it is intended to propose that the name of the company be changed to "The Cheltenham and Swansea Rolling Stock Company (Limited)," and other resolutions, having for their object the reconstruction of the company, upon the basis indicated in the reports and circulars of the committee and directors, and the acceptance and carrying into effect of the arrangements therein referred to.

FOREST OF DEAN.—The confirmation of late prices for iron at the Quarterly Meeting of Ironmasters will not so much affect this district as others, the old list rates not being so strictly regarded by the ironmasters here. Not that the marketable price of iron is disregarded, but that the Forest of Dean iron is so essential for certain manufacturing purposes, and the trade being in the hands of but few makers, who endeavour to keep up the famed quality of their iron, and being somewhat in union as to rates, they are enabled to command a price less fluctuating than in South Wales and Staffordshire. The same good account that has hitherto characterised our notices of the iron trade in the Forest of Dean may be certainly endorsed this week, there being no scarcity of orders or diminution in the employment of labour; and it may be further added that this remark is by no means of a partial character, it being generally shared by the Forest ironmasters. While the iron trade cannot be set down as bearing any comparison in the aggregate to the coal trade, which is really the staple branch, nevertheless in all its departments, including the well-known steel works, near Coleford, belonging to the Messrs. Musket and Co., it forms no insignificant part of the commerce of the district.

With regard to the present and future prospects of the Coal Trade, they are now encouraging, and the future is buoyant with hope, notwithstanding that we are in the meridian of summer, when this commodity is far below the average in respect, the sun doing duty for it, leaving coal generally uncalled for. There was never, in the history of the coal fields in the Forest of Dean, a more active or vigorous season, or greater elasticity in the supply than the present. Indeed, the year, so far as it has gone, has been marked in every way with almost unprecedented success, and it is a matter of great and general surprise that the coal masters readily submitted in May last, and allowed an old arrangement to govern a marketable commodity held in great respect, and which, instead of £1. per ton reduction, could have well maintained the then existing prices, or even an advance. It is whispered that this is in part owing to a want of unity between the various proprietors and coal merchants. How far this may be correct is a matter that may with consistency be left. Looking at commerce generally, it is found that the greater the demand the greater the value. This principle cannot be applied to the Forest of Dean coal trade, and why some masters who have to contend with this measure and expensive transit can barely make two ends meet may be in a great measure explained by this very circumstance. Nevertheless, it is confidently anticipated that higher prices will be obtained before long, and the old and ridiculous precedent alluded to will be wiped away. It will be remembered that at the beginning of the year it was stated that great improvements had taken place at Cinderford, and others were hinted at very likely to be made. This prediction is in some degree now about to be verified, and last week a large meeting took place, under the presidency of Mr. Edwin Crawshay, for the purpose of considering the advisability of erecting a Town Hall and Market House. The meeting was crowded to excess, and it was stated by the Chairman that a plot of ground had been secured for £500., and it was further estimated that the cost of erection would amount to £5000. The Chairman said his father, Mr. Henry Crawshay, would take shares to the value of £500., and himself another £500., leaving £500., or 300 shares, which he proposed should be taken by working men of Cinderford. The proposition was very warmly adopted, and a share-list framed, and during the meeting 220 out of the 300 shares were secured. Instructions were given for the preparation of plans, &c. The extensive and valuable iron mine under the Lydney Park estate is soon about to be worked, arrangements having been very recently entered into between the venerable owner (the Rev. W. H. Bathurst) and Capt. Allaway, of Lydney. This ore abounds in very large quantities, and in many places may be dug at the surface. By these unexpected arrangements a great impetus will be given to trade in the neighbourhood of this rising town. Mr. Allaway is an excellent master, being the joint proprietor (with his relatives) in the Forest of Dean Tin Works. He is highly esteemed in the district, and is one of the local magistrates. There is no doubt whatever but early means will be adopted to unlock this great treasure, and manufacture the same into iron. Furnaces will be built, but at present it is a matter of speculation where.

THE SPECULATION AND PANIC PREVENTER.—Probably the most curious invention (?) ever brought before the Commissioners of Patents is that of Mr. Frederick Maunder, of Barnstaple, which, but from the fact that the Goverment fee of 5l. had to be paid on lodging the specification, would certainly have been generally regarded as a hoax. He declares the nature of his invention to be as follows:—"At present the bank note money of the kingdom increases and decreases with the imports and exports of gold; the increase sends down the rate of interest or loanable value of money, leading to excessive speculation, which, when these speculations have matured, raises the price of commodities, thereby causing an export of gold, which leads to a decrease of the note circulation, and brings on pressure and panic. My invention provides for stability and uniformity in the amounts of the note circulation, while it still retains equality of value with gold at the national standard of 32. 17s. 10d. per oz. This uniformity in the quantity of note money will on the one hand prevent a low rate of interest and excessive speculation, and on the other a high rate of interest and panic." It is scarcely to be regretted that the ingenious inventor was refused protection for his discovery, although the refusal will add one more to the list of almost the only class of inventors who claim to have grievances.

INDIAN RAILWAY DEBENTURES.—It appears that at the date of the last return the amount of Indian railway debentures outstanding was £12,123,460., of which £7,249,460. were convertible into stock, and £8,873,000. inconvertible. These debentures, which are all guaranteed by the Secretary of State for India in Council, are divided as follows between the various companies:—The East Indian, £6,642,600.; Madras, 1,795,550.; Great Indian Peninsular, 4,000,000.; Scinde, 330,800.; Indus Flotilla, 25,400.; Punjab, 500,000.; Bombay, Baroda, and Central India, 1,245,595.; Eastern Bengal, 610,500.; Calcutta and South-Eastern, 112,850.; and Great Southern of India, 204,800. It has been determined to restrict as far as possible the raising capital by means of debentures, especially those debentures which are not convertible into stock.

THE FINANCIAL LESSONS OF 1866.—The pamphlet just issued under this title through Messrs. Smith, Elder, and Co., of Cornhill, by "A City Manager," in the shape of a letter addressed to Mr. Gladstone, is well worthy the perusal of all intending speculators. The writer endeavours to show that the Bank of England might be forced to stop payment under the Act of 1844, even sooner than under its suspension; he desires free trade in bullion as in everything else; he admits that the Act of 1844 has made the position of the Bank a good deal more safe than previously, but that the directors only deceive themselves when they imagine that the Bank is perfectly safe; and he considers that those notes really and truly represent that metal which alone satisfies the foreign creditor. The pamphlet should be read by all, if only to learn the fallacies upon which the arguments of most of those who urge the repeal of the Bank Charter Act are based.

## THE TALARGOCH MINING COMPANY (LIMITED), DYSERTH, NEAR RHYL.

The directors of this company are OPEN to CONTRACT for a TWELVE MONTHS' SUPPLY OF COAL for the Mine, commencing from the 1st August next, to be delivered in trucks by rail, at the rate of 160 tons per week.

Tenders, addressed to the directors at the mine, to be sent in by the 16th of July inst., stating price per ton at the pit, and railway charge per ton from colliery to the Prestatyn Station.

W. SMITH, Secretary.

Talargoch Mine, near Rhyl, July 3, 1867.

107

## SOUTH FOWEY CONSOLS COPPER MINE.

At a PUBLIC MEETING, held pursuant to advertisement at the London Tavern, Bishopsgate-street, July 3,

NICHOLAS KENDALL, Esq., M.P. (East Cornwall) in the chair.

It was proposed by Mr. W. L. WEBB, Stock Exchange, seconded by EDWARD LAMBERT, Esq.

Resolved unanimously,—"That this meeting is of opinion that South Fowey Consols is a sound and legitimate mining speculation, well deserving the attention of capitalists."

Proposed by Mr. BROWN, seconded by Mr. LITTLE.

Resolved unanimously,—"That the best thanks of this meeting be presented to Mr. Kendall for his kind attention on the present occasion, and for the valuable information he had given.

WILLIAM POLKINGHORNE, Purser.

108

## SOUTH FOWEY CONSOLS COPPER MINE.

Deposit 6s. per share. Future calls as required.

Prospectuses, &c., to be had of Mr. WILLIAM POLKINGHORNE, Woodlands, Par Station, Cornwall; or of Mr. JEHU HITCHINS, St. Michael's House, Cornwall.

See particulars of public meeting held on the 4th inst., in another column.

109

## HANGSMAN'S HILL IRON MINING COMPANY.

Notice is hereby given, that the FIRST ANNUAL GENERAL MEETING of shareholders will be HELD at the Rising Sun Inn, Barnstaple, Devon, on TUESDAY, the 30th of July inst., at Twelve o'clock precisely.

Dated West Down, Devon, July 1, 1867.

JOHN HARPER, Manager.

&lt;p

## THE MID-WALES LEAD MINING COMPANY (LIMITED).

Capital, £15,000, divided into 6000 shares of £2 10s. each.  
Deposit—On application, 10s. per share, and upon allotment, 10s. per share.

No call will exceed 10s. per share.  
Registered under the Companies Act of 1862, whereby each person's liability is limited to the amount of shares subscribed for.

DIRECTORS.  
Col. BOULDERSON (late Madras Army), Southsea, Hants.  
HAMERTON CRUMP, Esq. (Director of the Paraguassu Steam Tram-road Co., Limited), 117, Cannon-street, E.C.; and Piccadilly, W.  
WILLIAM J. LINDSAY, Esq. (Messrs. Grant, Kempshad, and Co.), 46, Lime-street, E.C.  
JOSEPH NIGHTINGALE, Esq. (late H.M.'s Civil Service), 45, Cambridge-road, Kilburn.  
JOB TAYLOR, Esq., Dixon's Green, Dudley (Chairman of the Central Snail-beach Lead Mining Company, Limited, and the Brynpostig Lead Mining Company, Limited).

No remuneration will be received by the directors until it is voted to them by the shareholders.

BANKERS.  
The National Provincial Bank of England, Bishopsgate-street, London.  
CONSULTING ENGINEER.

Capt. John Kitto (late of Great Laxey Mines), Shrewsbury.  
SECRETARY—Mr. E. Houghton.

OFFICES,—3, KING WILLIAM STREET, CHARING CROSS, LONDON.

PROSPECTUS.

This company has been formed for the purpose of acquiring the leases and extending the works of a rich silver-lead mine situated in the richest silver-lead district in North Wales, long celebrated for its immense yield of silver-lead ores.

The mine is situated in the parishes of Llangurig and Llandinham, in the county of Montgomeryshire, adjoins the Ty-wch station of the Mid-Wales Railway, and is held under lease, upon very moderate terms, for 21 years.

A large amount of valuable work is already done, two rich lodes have been opened upon by means of adit levels, and a quantity of silver-lead ore obtained; the deepest level has been driven about 100 fms., and the end of it is now within a few fathoms of a rich bunch of lead which was discovered when sinking a small shaft on the top of the hill.

A very small amount of capital expended on the driving of this adit will, it is confidently expected, in a short time lay open a large extent of valuable mineral ground, and make the property a permanent dividend-paying mine.

The situation of the property is excellent, railway communication is close at hand, and ample water-power is available all the year round for all purposes of crushing and dressing the ores.

So satisfied are the present owners of the real bona fide value of this property, that they have agreed to sell their entire interest for the moderate sum of £6500; of this sum £500 only will be paid in cash, £5500 in fully paid-up shares, and the balance of £500 will be paid twelve months after registration of the company.

The directors believe that no better proof of confidence in the value of the mine than such conditions of sale as these can possibly be offered. The mine is now at work, and yielding ore.

The Memorandum and Articles of Association contain no unusual clauses, and can be inspected at the offices of the company.

If no allotment is made the deposit will be promptly returned without deduction.

Applications for shares, with a cheque or Post-office Order for the deposit of 10s. per share, can be sent either to the bankers, brokers, or secretary.

No application for less than five shares will be entertained, and the allotments will be made according to priority of application.

Samples of the ores can be seen either at the offices or at the brokers.

Full prospectuses, with reports by Capt. John Kitto, late of the Great Laxey Mines, and Capt. Nancarrow, of the Stiperstones Mining Company (Limited), can be had on application to the Secretary at the company's offices.

TAQUARIL GOLD MINING COMPANY (LIMITED), IN THE PROVINCE OF MINAS GERAES, BRAZIL.

Capital, £100,000, in shares of £1 each.  
2s. 6d. per share on application, 2s. 6d. per share on allotment.  
No call to be made at a less interval than three months, or to exceed 2s. 6d. per share.

CHAIRMAN.  
H. BIRT, Esq., formerly of the St. John del Rey Mining Company.  
BANKERS.  
The Consolidated Bank (Limited), 93, Threadneedle-street, London, E.C.

BROKERS.  
Messrs. Walker and Lumsden, 25, Austinfriars, London, E.C.  
Messrs. G. and T. Irvine, India Buildings, Liverpool.  
SECRETARY—Edward J. Cole, Esq.

OFFICES,—2, NEW BROAD STREET, LONDON, E.C.

Prospectuses and reports, containing the fullest information, to be had of the secretary, or the brokers of the company.

MR. THOMAS SPARGO, STOCK AND SHARE DEALER, 224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C., TRANSACTS EVERY DESCRIPTION OF BUSINESS IN THE PURCHASE AND SALE OF SHARES IN BANKS, CANALS, MINES, RAILWAYS, BRIDGES, INSURANCES, and ALL OTHER BRITISH AND FOREIGN STOCK.

Mr. SPARGO has for sale shares in English mines paying regular dividends bi-monthly and quarterly, as also a number of shares in good progressive mines, some of which he with confidence specially recommends to the public as sound investments.

Mr. SPARGO gives every information as to position and prospects of all mining undertakings, upon application, either personally or by letter, and is enabled, through his long experience, aided by his monthly visits to Cornwall, Devon, and Wales, to obtain the most reliable information as to the numerous mines in those districts. He will at all times give the best advice as to investments in mines, and, if necessary, inspect them himself; as in all cases he wishes to be guided by the intrinsic value of the property, and, if required, will furnish a selected list of dividend and progressive companies.

Mr. SPARGO has published the following works, viz.:—

Statistics and Observations upon the Mines of Cornwall, 1859—2s. 6d.  
Ditto ditto ditto 1860, price 2s. 6d.  
Ditto ditto ditto 1862, price 5s.  
Ditto ditto ditto 1864, price 5s.  
Ditto ditto ditto 1865, price 5s.

Physical, Geological, and Parish Map of Cornwall. Scale, three miles to an inch. Printed in three colours, showing distinctly the mining districts, the height of the hills, &c. Price 10s. 6d., on cloth and rollers.

Geological Maps of the various mining districts, showing the boundary line of each mine, with the lodes, cross-courses, and elvan courses traversing the same. Price 2s. 6d. each.

A Model, or Relief, Map of Cornwall (6 ft. 6 in. by 5 ft.), containing the names of every town and village, as also every characteristic point of the county. Price £5 5s.

Dividends received, calls paid, and all orders promptly negotiated. Commission 1½ per cent.

Mr. SPARGO has 25 years' experience of mining, 10 of which he was engaged in practical mining, and 15 years he has transacted business in mining shares and stock, at 224 and 225, Gresham House, Old Broad-street, City, E.C.

Mr. SPARGO's Statistics for 1866 are now ready.

Banker: Consolidated Bank, Threadneedle-street.

GUIDE TO INVESTORS.—Mr. SPARGO'S "Guide to Investors" for the present month contains a Tabular Statement of Banking, Mining, other Companies; City and Commercial Facts and Incidents; and a Price List of Shares in Banks, Canals, Railways, Bridges, and Finance Companies. It also contains Rate of Discount at Home and Abroad; together with necessary detailed information connected with the Stock and Share Markets, Mines, and Miscellaneous Companies. The City Article affords the most recent and authentic information concerning the stock, share, and produce markets.

224 and 225, Gresham House, Old Broad-street, London, E.C., June, 1867.

Second edition, enlarged, in 8vo., with woodcuts, 10s. 6d.

HANDBOOK OF PRACTICAL TELEGRAPHY, published with the sanction of the Chairman and Directors of the Electric and International Telegraph Company, and adopted by the Department of Telegraphs for India.

By R. S. CULLEY, Engineer to the Electric and International Telegraph Company.

London: LONGMANS, GREEN, and Co., Paternoster-row.

Just published, with portraits, post 8vo., price 4s.

I N V E N T O R S A N D I N V E N T I O N S : COMPRISING—

1. PHILOSOPHY OF INVENTION;  
2. THE RIGHTS AND WRONGS OF INVENTORS; and  
3. INVENTORIES OF SECRET INVENTIONS.

By HENRY DIRCKS, C.E., F.C.S., M.R.S.L., F.R.S.E., &c.

London: E. and F. N. SPOON: 48, Charing-cross, S.W.

Price 1s. 6d., by post 1s. 8d.

N O T E S O N T H E M I N E S O F T H E R I O T I N T O D I S T R I C T : Containing a DETAILED REPORT upon the MINES and on the MEANS of RENDERING THEM MORE PROFITABLE, as well as an ACCOUNT of the PROCESS OF TREATING POOR ORES OF COPPER, successfully used there.

By JOSEPH LEE THOMAS, Assoc. I.C.E.

London: MINING JOURNAL Office, 26, Fleet-street, E.C.

N O T I C E.—CAPT. S. M. RIDGE, of LLANIDLOES, MONTGOMERYSHIRE (late manager of the Brynpostig and Cwm Fron Mines, and others, in Shropshire and Wales), is NOW OPEN TO INSPECT and faithfully REPORT UPON ANY LEAD MINE in either of these localities that may be confided to his care, having had better than 30 years' experience in lead mining, as miner and agent.—Address, Capt. S. M. RIDGE, Llanidloes, Montgomeryshire.

B R A N D Y, B R A N D Y, G I V E U S B R A N D Y, Oh! the Ladies say 'tis good!  
And a CERTAIN CURE for CHOLERA, spasmodic symptoms, and internal complaints, when unadulterated; but how seldom to be met with in its pure state, unless from the direct importers, C. DEVEREUX and Co., 26, EAST INDIA CHAMBERS, LEADENHALL STREET, LONDON, at 3s., and for "premiere qualité," 4s. per dozen, either pale or brown, bottles and cases included. Forwards same day against Post-office order or remittance.

## In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the WHEAL LOVELL MINING COMPANY.—TENDERS will be RECEIVED at the Registrar's Office, Truro, until the 30th day of July instant, stating the highest price which will be given for the MINE SETT or GRANT, and the whole or any part of the unsold MINING MACHINERY and MATERIALS at WHEAL LOVELL MINE, situate in the parish of Wendron, comprising—STEAM ENGINE, 50 in., 9 ft. stroke in cylinder, with first piece of rod, with woodwork of engine-house.

TWO BOILERS, 30 tons, with fittings; one ditto, 9 tons.

STEAM WINDING ENGINE, steam stamps engine, 24 in. 8 ft. stroke, with two fly wheels and cranks attached; 2 stamps axes, with cranks, blocks, and brasses, 24 heads, and a quantity of other machinery and materials in general use in mines.—For inspection, apply to Mr. JAMES, at the mine.

Truro, July 4, 1867. JOSEPH ROBERTS, Solicitor, Truro.

## In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the CROWAN CONSOLS MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED on or before the 15th day of July instant, to SEND IN THEIR NAMES and ADDRESSES, and the AMOUNTS and PARTICULARS of THEIR SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Registrar's Office, Truro, July 3, 1867.

## In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

**I**N the MATTER of the COMPANIES ACT, 1862, and of the WHEAL CURTIS MINING COMPANY.—TENDERS will be RECEIVED at the Registrar's Office, Truro, until the 10th day of July instant, stating the highest price which will be given for the MINE SETT or GRANT, dated the 24th June, 1863, for the term of 21 years from the 21st February, 1863, at 1-18th dues, under and by virtue of which the mining operations of the said company have been for some time past carried on.—Further particulars may be obtained at the Registrar's Office, Truro.

Dated Truro, July 3, 1867. HODGE, HOCKIN, and MARRACK, Truro.

FOWEY CONSOLS MINE.

**M**R. WILLIAM WERRY WILL SELL, BY PUBLIC AUCTION, on Monday, July 15, at Ten o'clock in forenoon, at FOWEY CONSOLS MINE, TYWARDREATH, near PAR STATION, the undermentioned VALUABLE MINE MACHINERY AND MATERIALS, viz.:

ONE 80 in. cylinder ENGINE, 10 ft. 3 in. by 9 ft. 3 in. stroke, with FOUR BOILERS, 12 tons each, and fittings.

TWO 22 in. winding ENGINES, 5 ft. stroke, boilers and cages, complete.

ONE 18 in. winding ENGINE, 4 ft. stroke, boiler and cages, complete.

TWO 22 in. hydraulic ENGINES.

ELEVEN WATER WHEELS, of various sizes, from 16 ft. to 40 ft. diameter.

Rods, bobs, and working gear for man engine.

2 drawing machines, worked by water wheels.

1 saw mill, worked by water wheels.

Patent separators, worked by water wheels.

2 Water stamps, with iron axles, together 56 heads.

A large quantity of Memel and red pine main rods, varying from 6 in. to 14 in., with hammered iron plates and rod pins to match.

Upwards of 400 poms, various sizes, from 7 in. to 17 in. diameter.

A quantity of flange and door pins, pump rings, &c.

14 H pieces, from 8 in. to 18 in. diameter.

20 door pieces, from 8 in. to 18 in. diameter.

14 plunger poles, from 6 in. to 15 in. diameter, with stuffing boxes, glands, and brass bushings.

16 flat bottom and sinking windbores, of different sizes.

A large quantity of bucket prongs, and brasses.

A large quantity of iron stave ladders.

A large quantity of staples and glands.

A large quantity of flat rods and other shives, from 2 ft. to 9 ft. diameter.

Crab winches, of different sizes.

Hand and side screws, of different sizes.

5 capstans and shears, of different sizes.

15 balance bows, with castings, brasses, &c.

450 fms. 12 in. shroud laid capstan ropes, 100 fms. of which is new.

5 in. and 7 in. flat ropes. Horse whim ropes.

Upwards of 100 tons railroad iron.

Several tons railway saddles. Several tram wagons. Several horse whims.

A large quantity of good useful timber.

A large quantity of new and old iron.

A large quantity of smiths' bellows and tools, miners' tools, barrows, &c.

A superior large turret clock, complete, with two dials.

And a variety of other articles and effects in general use in a large mine.

The whole will be offered in One Lot, and if not disposed of then to be sold separately.

The above may be inspected on application to the agents on the mine, or further particulars obtained from WILLIAM WERRY, Esq., Tredenham House, St. Blazey; MR. WILLIAM POLKINGHORNE, Woodlands, Par Station; CAPTAIN FRANCIS PUCCETT, St. Blazey; or the auctioneer, St. Blazey.

Dated June 20th, 1867.

GLOUCESTERSHIRE.—PRELIMINARY ADVERTISEMENT.

**V**ALUABLE FREEHOLD ESTATE AND MINERALS.—In the months of August or September next, will be OFFERED FOR SALE, BY AUCTION (unless disposed of in the meantime by private contract), a VALUABLE FREEHOLD ESTATE, called "BARRE'S COURT."

Situate in the parish of BITTON, within three and a half miles of the City of Bristol, one mile of the Warmley Station of the Bath and Mangotsfield branch of the Midland Railway, and two miles of the Keyn

**PRENTICE'S GUN COTTON  
COMPRESSED CHARGES  
FOR MINING AND QUARRYING.**

The principle thus introduced insures the most perfect attainment of the points essential for the safety and stability of the material at the same time securing the highest effective power. A charge of any given size exerts six times the explosive force of gunpowder.

The enormous power confined in a short length at the bottom of the hole allows of a much greater amount of work being placed before each charge is made of any diameter required, the length varying with the diameter. Any number may be placed in a hole. Each charge is fully equal to one-sixth of a pound of powder.

**PRICES.**

Per case, containing 500 charges of any diameter ..... 25s.  
Per half case, containing 250 charges of any diameter ..... 18s.  
Per quarter case, containing 125 charges of any diameter ..... 9s.  
Tons, cash.

MANUFACTURED BY  
THOMAS PRENTICE AND CO., 82, GRACECHURCH STREET, LONDON.  
WORKS, STOWMARKET.  
LONDON AGENT.—Mr. THORNE.

**JOHN AND EDWIN WRIGHT,  
PATENTERS.  
(ESTABLISHED 1770.)  
MANUFACTURERS OF EVERY DESCRIPTION OF  
IMPROVED  
PATENT FLAT AND ROUND WIRE ROPES,  
From the very best quality of charcoal iron and steel wire.  
PATENT FLAT AND ROUND HEMP ROPES.  
HIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's Patent steel wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE, TARPAILING, OIL SHEETS, BRATTICE CLOTHS, &c.  
UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.  
UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM.  
No. 2, OSWALD STREET, GLASGOW.  
CITY OFFICE No. 5, LEADENHALL STREET, LONDON, E.C.**

**APPLEBY BROTHERS,  
EMERSON STREET, SOUTHWARK,  
LONDON, E.C.**

At the PARIS EXHIBITION, Class 52 (No. 1), opposite the Grand Entrance, also in the English Boiler House, Makers and Patentees of

**STEAM CRANES,**  
Hydraulic and Hand Cranes, Derricks, Ships' Winches, Hoists, Travellers, and all kinds of Lifting Machinery,  
**PATENT STEAM PUMPS,**  
DONKEY ENGINES, OR INJECTORS.

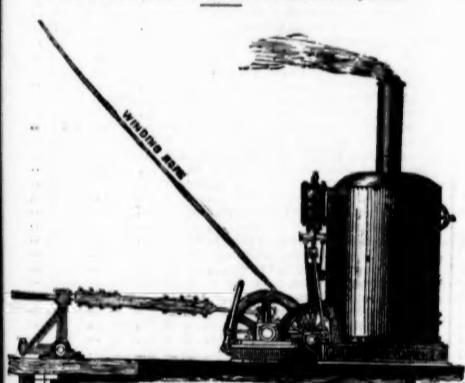
These pumps are cheap, durable, and extremely simple; the working parts and valves are of hard gun metal and hardened cast-steel. May be fixed vertically or horizontally, and applicable for lifting and forcing hot liquors. Every pump is tested in steam before being sent out.

1 2 3 4 5 6 7 8 9  
1 1/2 in. 2 in. 2 1/2 in. 2 1/2 in. 2 1/2 in. 3 in. 3 1/2 in. 3 1/2 in. 4 in.  
per hr. 250 400 680 850 1200 1500 2100 2500 3500  
per hr. 15 25 40 60 80 95 120 150 220  
£10 5 £12 10 £15 £18 £21 £24 £28 £35 £55

**APPLEBY'S SOVEREIGN PUMP, and other LIFT  
OR FORCE PUMPS, with their PATENT CONICAL VALVES,  
and imperishable packings, are simple, durable, effective, easily  
fixed. Suitable for deep or shallow wells, for house, agricultural, or  
manufacturing purposes. Will pump hot water, alkalies, and other  
chemicals which destroy ordinary pumps. From 20s. each.**

APPLEBY BROTHERS, Emerson-street, Southwark  
(from No. 30, Gracechurch-street);  
of all Ironmongers and plumbers.

Prize Medal—International Exhibition, 1862.



**CHAPLIN'S PATENT PORTABLE  
STEAM ENGINES, &c.,  
FOR PUMPING AND WINDING.**

These engines are SPECIALLY ADAPTED for PITS, QUARRIES, &c. They are EXCEEDINGLY SIMPLE in ARRANGEMENT and STRONG. NO FOUNDATION or CHIMNEY STALK being NECESSARY, they can be ERECTED or REMOVED with VERY LITTLE TROUBLE or EXPENSE, and are WELL ADAPTED for HOME or FOREIGN USE.

Sizes, from 2 to 25-horse power.

STEAM CRANES, STEAM WINCHES, CONTRACTORS' LOCOMOTIVES, HOISTING ENGINES, PUMPING AND WINDING GEARING, &c.

ALEXANDER CHAPLIN AND CO., CRANSTON-HILL ENGINE WORKS, GLASGOW.

**THOMAS TURTON AND SONS,  
MANUFACTURERS OF  
CAST STEEL for PUNCHES, TAPS, and DIES,  
TURNING TOOLS, CHISELS, &c.  
CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS and FORGINGS of EVERY DESCRIPTION.**

DOUBLE SHEAR STEEL FILES MARKED T. TURTON SPRING STEEL, EDG TOOLS MARKED WM. GREAVES & SON.

Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.

**SCHEFF WORKS AND SPRING WORKS, SHEFFIELD.**

WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.

THE largest stock of steel, files, tools, &c., may be selected from.

**COLLIERY AND IRONWORKS PROPRIETORS,—** PATENTEES, and ADVERTISERS of every class, who wish to address themselves to the COLLIERY, IRONWORKS, MINERAL PROPRIETORS, &c., of SOUTH WALES, should advertise in the "CARDIFF AND MERTHYR GUARDIAN," established in 1832, and which is the leading journal in South Wales. A series of advertisements inserted on liberal terms.

G. W. JONES, General Manager, Cardiff and Mertyr Guardian offices, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North Shields; 196, High-street, Sunderland.

**THE NEWCASTLE CHRONICLE AND NORTHERN COUNTIES ADVERTISER.** (ESTABLISHED 1764.) Published every Saturday, price 2d., or quarterly 2s. 2d.

**DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER.** Published every morning. Price 1d.

146

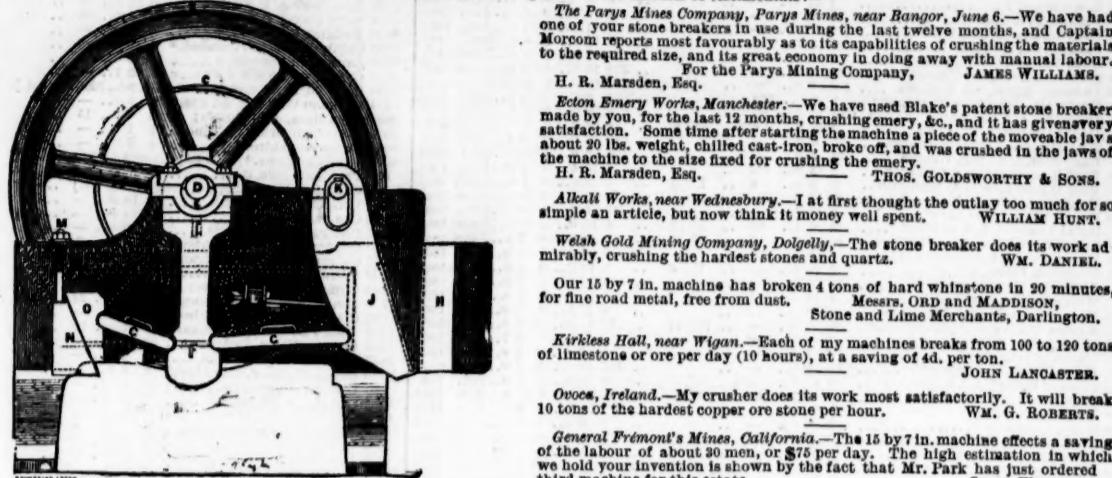
Full information, Drawings, Price Lists, &c., relating to the above, and to Hydraulic Machinery of all descriptions—Crabs, Pulleys, Blocks, and Hoisting Tackle of superior manufacture—may be had on application.

**IMMENSE SAVING OF LABOUR.**  
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, MCADAM ROAD MAKERS, &c., &c.

**BLAKE'S PATENT STONE BREAKER,**  
OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials.



For circulars and testimonials, apply to—

**H. R. MARSDEN, SOHO FOUNDRY,  
MEADOW LANE, LEEDS,  
ONLY MAKER IN THE UNITED KINGDOM.**

**THE NEW PATENT INJECTOR,  
FOR FEEDING BOILERS AND RAISING WATER FOR OTHER PURPOSES.**

Size.	Ram. in.	Stroke. in.	PRICES, DELIVERED IN LONDON:—		
			boiler supplied.	Approximate gallons thrown per hour. At 100 rev.	Price.
No. 4	1 1/2	3	15	115	£10 10
5	1 1/2	3	22	180	12 12
6	1 1/2	4	30	240	14 14
7	2 1/2	4	40	345	17 0
8	2 1/2	5 1/2	55	475	19 10
9	2 1/2	5 1/2	75	585	22 10
10	2 1/2	6 1/2	90	720	25 10
11	2 1/2	6 1/2	110	870	28 10
12	2 1/2	8	120	1030	31 10
*14	3	8	230	1645	40 0
*16	3	8	460	3675	55 0
			4900	7350	

\* The two last pumps are made double-acting.

Steam Regulator Valves, and also Check Valves, specially made to suit these Engines, can be supplied.

Terms: Nett Cash on Delivery.

A CIRCULAR, WITH FULL EXPLANATION AND COMPARISONS, WILL BE SENT ON APPLICATION.

**BROWN, WILSON, AND CO.,**

NO. 80, CANNON STREET, E.C.; AND VAUXHALL IRONWORKS, LONDON, S.

**STEAM CRANES—PARIS EXHIBITION, CLASS 52.**

THE ONLY MEDAL FOR STEAM CRANES WAS AWARDED TO

**APPLEBY BROTHERS,**

EMERSON STREET, SOUTHWARK, LONDON, S.E.,

From whom Prices and Particulars may be obtained.

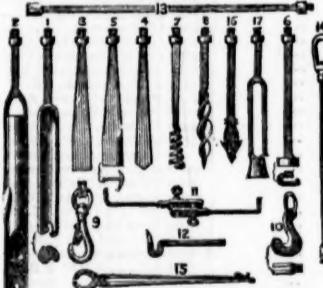
**BICKFORD'S PATENT SAFETY FUSE**

Obtained the PRIZE MEDALS at the ROYAL EXHIBITION of 1851; at the INTERNATIONAL EXHIBITION of 1862, in London; at the IMPERIAL EXPOSITION held in Paris, in 1855; and at the INTERNATIONAL EXHIBITION, in Dublin, 1865.

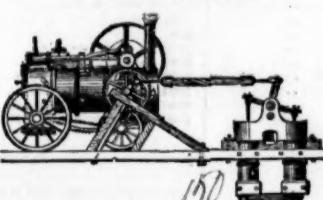
**BICKFORD, SMITH, AND CO.,** of TUCKINGMILL, CORNWALL, MANUFACTURERS OF PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuses not of their manufacture, beg to call the attention of the trade and public to the following announcement:—EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH THE COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

**S. OWENS AND CO. (LATE CLINTON AND OWENS),** WHITEFRIARS STREET, FLEET STREET, LONDON, E.C., HYDRAULIC AND GENERAL ENGINEERS, MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND, HORSE, WATER, OR STEAM POWER.

#### BORING TOOLS.



Boring Tools of every description, for Testing Ground and for Artesian Wells.



Portable Engines with Double Barrel, or other Pumps, on Hire or Purchase.

Improved Double-action Pumps.

Full information, Drawings, Price Lists, &c., relating to the above, and to Hydraulic Machinery of all descriptions—Crabs, Pulleys, Blocks, and Hoisting Tackle of superior manufacture—may be had on application.

**ACCIDENTS WILL HAPPEN!**

Everyone should, therefore, provide against them! £100 in case of Death, or £6 per week while laid up by Injury, caused by ACCIDENT OF ANY KIND (riding, driving, hunting, shooting, fishing, &c.), may be secured by an Annual Payment of from £3 to £6 6s. to the RAILWAY PASSENGERS' ASSURANCE COMPANY, The Oldest Established and Largest Company in the World insuring against ACCIDENTS OF EVERY DESCRIPTION. For particulars apply to the Clerks at any of the Railway Stations, to the Local Agents, or at the OFFICES, —64, CORNHILL, and 10, REGENT STREET, LONDON. WILLIAM J. VIAN, Sec.

D. R. WATSON (of the Lock Hospital), F.R.A.S., Member of the College of Physicians and Surgeons, on the SELF-CURE of NERVOUS and PHYSICAL DEBILITY, Lowness of Spirits, Loss of Appetite, Timidity, Incapacity for Exertion, &c., with means for perfect restoration. Sent free for two stamps by Dr. WATSON, No. 1, South-crescent, Bedford-square, London. Consultations daily from 11 till 2, and 6 till 8; Sundays, 10 till 1.

Just published, post free for two stamps, WONDERFUL MEDICAL DISCOVERY, demonstrating the true causes of Nervous, Mental, and Physical Debility, Lowness of Spirits, Indigestion, Want of Energy, Premature Decline, with plain directions for perfect restoration to health and vigour, WITHOUT MEDICINE. Sent free on receipt of two stamps, by W. HILL, Esq., M.A., Berkeley House, South-crescent, Russell-square, London, W.C.

CONSULT DR. HAMMOND (of the Lock Hospital, &c.), No. 11, Charlotte-street, Bedford-square, London, W.C., in all those ailments which tend to embitter and shorten life, and especially those termed peculiar and confidential. At home, Nine to Two, and Six to Eight; Sundays, Ten to Twelve. The "Self-Curative Guide" post free, two stamps. N.B.—Cases of recent infection cured in two days.

CURE YOURSELF BY THE PATENT SELF-ADJUSTING CURATIVE AND ELECTRIC BELT.—Sufferers from nervous debility, painful dreams, &c., can now cure themselves by the only guaranteed remedy in Europe, protected by Her Majesty's great seal. Free for one stamp by H. JAMES Esq., Percy House, Bedford-square, London.

N.B.—Medicines and fees superseded.

By post, from the author, 1s.; sealed ends, 20 stamps.

**MANHOOD:** A Medical Essay on the Cause and Cure of Premature Decline in Man, founded on the results of a successful practice of 30 years in the treatment of nervous and physical debility, sterility, impotency, effects of climate, and infection.

By J. L. CURTIS, M.D., 15, ALBEMARLE STREET, PICCADILLY. REVIEWS OF THE WORK.

"MANHOOD.—We feel no hesitation in saying that there is no member of society by whom the book will not be found useful, whether such person hold the relation of a parent, preceptor, or clergyman."—See Evening Paper.

"Dr. Curtis has conferred a great boon by publishing this little work, in which is described the source of those diseases which produce decline in youth, or more frequently premature old ages."—Daily Telegraph, March 27, 1866.

Also, from the same author, for 1s., or 16 stamps sealed, D.R. CURTIS'S MEDICAL GUIDE TO MARRIAGE: A Practical Treatise on its Physical and Personal Obligations. With rules for removing certain disqualifications which destroy the happiness of wedded life. Sold by ALLEN, 11, Ave Maria-lane; MANN, 39, Cornhill, London. Consultations daily, from Ten to Three, at No. 15, Albemarle-street, Piccadilly, London, W.

**NERVOUS DEBILITY: ITS CAUSE AND CURE.**—Before seeking aid from the so-called remedies without medicine, read this valuable work on the Treatment and Cure of Nervous and Physical Debility, Loss of Appetite, Pains in the Back, Spermatorrhœa, &c., with Plain Directions for Perfect Restoration to Health. Sent post free to any address, on receipt of two postage stamps. Letters of enquiry or details of case promptly answered.

Address, DR. SMITH, 8, Burton-crescent, London, W.C.

147

148

149

150

151

152

153

154

155

156

157

158

159

160

## THE MINING SHARE LIST.

## BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Pershare.	Last paid.		
500 Alderley Edge, c, Cheshire*	10 0 0..	—	8 12 8..	0 5 0..	Jan. 1867	10 0 0..	—		
200 Botallack, t, c, St. Just	91 5 0..	180	488	15 0..	5 0..	May, 1866	10 0 0..		
4000 Brookwood, l	1 11 0..	—	0	5 0..	2 6..	Sept. 1866	10 0 0..		
1000 Brookloyd, l, Cardigan*	12 0 0..	—	8	7 0..	0 6 0..	Aug. 1866	10 0 0..		
6400 Cashwell, l, Cumberland*	2 10 0..	—	0	1 6..	0 1 6..	Aug. 1866	10 0 0..		
916 Cargoll, s-l, Newlyn	15 5 7..	12	13	12 0..	1 0 0..	Feb. 1866	10 0 0..		
1867 Cwrt Erfin, l, Cardiganshire*	7 10 0..	—	23	18 0..	0 1 0..	June 1867	10 0 0..		
128 Cwymyntwith, l, Cardiganshire	60 0 0..	—	379	19 0..	3 0 0..	April 1867	10 0 0..		
280 Derwent Mines, s-l, Durham	300 0 0..	—	174	10 0..	5 0 0..	June 1867	10 0 0..		
1024 Devon Gt. Consols, c, Tavistock†	1 0 0..	425	1060	0 0..	6 0 0..	May 1867	10 0 0..		
338 Dolcoath, c, l, Camborne	128 17 6..	—	828	10 0..	3 0 0..	June 1867	10 0 0..		
6144 East Cadron, c, St. Cleer†	2 14 6..	6 4..	14	9 6..	0 2 0..	April 1867	10 0 0..		
300 East Darren, l, Cardiganshire	32 0 0..	—	140	10 0..	2 0 0..	Mar. 1867	10 0 0..		
128 East Pool, t, c, Pool, Illogan	24 5 0..	—	402	10 0..	5 0 0..	May 1867	10 0 0..		
5000 East Rosewarne, c, Gwinear	5 10 6..	98	0	10 0..	1 6..	April 1866	10 0 0..		
1900 East Wheal Lovell, t, Wendron	3 9 0..	8	7 7 1/2	2 12 0..	0 7 6..	April 1867	10 0 0..		
280 Foxdale, l, Isle of Man*	25 0 0..	—	70	10 0..	10 0 0..	June 1867	10 0 0..		
5000 Frank Mills, l, Christow	3 18 6..	—	3	5 6..	0 5 0..	Feb. 1866	10 0 0..		
5000 Great Laxey, l, Isle of Man*	4 0 0..	20	18 19	6 12 0..	0 10 0..	June 1867	10 0 0..		
5908 Great Wheal Vor, t, c, Helston	40 0 0..	19	17 18	11 12 0..	0 7 6..	June 1867	10 0 0..		
1024 Herodotus, t, near Liskeard†	8 10 0..	37	42	0 0..	1 10 0..	June 1867	10 0 0..		
6000 Hington Down, c, f.	5 10 6..	—	0	10 0..	0 5 0..	April 1867	10 0 0..		
4000 Lisburne, l, Cardiganshire	18 15 0..	—	439	10 0..	3 0 0..	Mar. 1867	10 0 0..		
9000 Marke Valley, c, Caradon	4 10 6..	5	3 14 0..	0 3 0..	April 1867	10 0 0..			
2000 Minera Boundary, l, Wrexham*	1 0 0..	—	0	12 0..	0 3 0..	Mar. 1866	10 0 0..		
1800 Minera Mining Co, l, Wrexham*	25 0 0..	—	155	18	412	13 0..	0 4 0..	May 1867	10 0 0..
20000 Mining Co. of Ireland, c, l,	7 0 0..	16	—	0	5 7..	Jan. 1866	10 0 0..		
40000 Mwyndy Iron Ore†	3 5 0..	—	0	6 6..	0 2 6..	Mar. 1866	10 0 0..		
200 Parrys Mines, c, Anglesey*	50 0 0..	—	157	10 0..	5 0 0..	Mar. 1866	10 0 0..		
6000 Prosper United, t, c, St. Hilary	8 14 0..	2 1/2	21 1/2	0	5 0 0..	Feb. 1867	10 0 0..		
1120 Providence, t, Uny Lelant	2 6 7..	30	28 30	82	17 6..	Mar. 1867	10 0 0..		
512 South Cadron, c, St. Cleer†	1 5 0..	—	556	10 0..	6 0 0..	May 1867	10 0 0..		
6000 South Darren, l	3 6 6..	—	0	6 6..	0 2 6..	June 1866	10 0 0..		
70000 Tincroft, c, t, Pool, Illogan	9 0 0..	14	13 14	18 11 0..	0 5 0..	Jan. 1867	10 0 0..		
20000 Trumpton Cons., t, Helston	11 10 0..	—	11	5 0..	0 5 0..	June 1867	10 0 0..		
30000 W. Chiverton, l, Perranzaboue.	10 0 0..	68	65 67	19 7 6..	0 2 0..	May 1867	10 0 0..		
400 West Wheal Seton, c, Camborne†	47 10 0..	155	145 150	473	0 0..	3 0 0..	June 1867	10 0 0..	
512 West Wheal Basset, c, Illogan	5 2 6..	70	67 1/2	623	0 0..	1 0 0..	June 1867	10 0 0..	
1024 Wheat Friendship, c, Tavistock	20 0 0..	—	400	10 0..	0 10 0..	Nov. 1866	10 0 0..		
4295 Wheat Kitty, t, St. Agnes	5 4 6..	—	3	1 0..	0 2 0..	Feb. 1867	10 0 0..		
1024 Wheat Mary Ann, t, Menheniot†	8 0 0..	15	13 1/2	61 15 0..	0 15 0..	June 1867	10 0 0..		
2090 Wheat Rose, c, Scorrier	—	—	1	0 0..	0 10 0..	Feb. 1866	10 0 0..		
396 Wheat Seton, t, c, Camborne	58 10 0..	120	110 115	244	5 0..	2 10 0..	June 1867	10 0 0..	
1040 Wheat Trelewany, s-l, Liskeard†	15 17 0..	9 1/2	54 14 6..	6 4 0..	0 4 0..	June 1867	10 0 0..		
30000 Whitewell Lead, Clitheroe	0 5 0..	—	0	10 0..	0 10 0..	June 1867	10 0 0..		
17000 Wicklow, c, l, Wicklow	2 10 0..	21 1/2	46 15 0..	1 0..	0 0 0..	April 1867	10 0 0..		

## FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus.	done.	Last Call.
15000 Cape Copper Mining†	7 0 0..	8	7 1/2	2 12 6..	0 10 0..	April, 1866
100000 Don Pedro No. del Rey, Brazil†	0 14 0..	4 3/4	4 3/4	0	4 3..	0 1 6..
25000 Fortuna, t, Spain†	2 0 0..	—	1	5 4..	0 2 0..	Oct. 1867
70000 English and Australian, c†	2 10 0..	7 1/2	3 1/4	1 3..	0 1 0..	1 Oct. 1867
20000 Gen. Mining Assoc., Nova Scotia	20 0 0..	—	23	12 0..	0 15 0..	June, 1867
10000 Gonnessa, l* [5000 £ pd., 5000 £ pd.]	—	—	7 1/2	per cent.	per annum.	—
15000 Linares, t, Spain†	3 0 0..	—	11	6 4..	0 5 0..	Jan. 1866
5000 Panuliclo, c†	3 0 0..	—	10	0..	per cent.	Yearly
6000 Peel River Land and Mineral†	2 10 0..	3 1/4	2 7 3	0	2 6..	Mar. 1867
10000 Pontigibaud, s-l, France†	20 0 0..	—	4	3 2..	1 3 6..	Dec. 1866
100000 Port Phillip, Phl., Clunes†	1 0 0..	1	7 1/2	0 16 6..	0 1 0..	Jan. 1866
120000 Scottish Australian Mining Co.	1 0 0..	1 1/2	—	7 1/2	percent.	Mar. 1867
11000 St. John del Rey, Brazil†	15 0 0..	66	58 60	77 5 0..	4 10 0..	June 1867
5000 Victoria (London) [25000 £ pd., 25000 £ 12s. 6d. pd.]	—	—	0	9 0..	0 1 0..	Jan. 1866
40000 West Canada Mining Company†	1 0 0..	—	0	19 6..	0 2 6..	May, 1866

## NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus.	done.	Last Call.
25000 Alamillos, l, Spain†	2 0 0..	—	1 1/2	—	—	Fully pd.
100000 Anglo-Brazilian, g†	0 10 0..	—	1 1/2	—	—	Nov. 1866
12500 Anglo-Italian, g†	0 5 0..	—	5 1/2	—	—	May 1867
20000 Australian, c, South Australia†	7 7 6..	—	—	5 1/2	—	May 1867
40000 Brittany Silver-Lead Mines, France† [15750 £ pd.]	—	—	—	—	—	—
2464 Burr Burra, c, South Australia†	5 0 0..	—	3 1/2	—	—	—
25000 Capula, s, Mexico†	1 12 0..	—	1 1/2	—	—	—
30000 Chontales, g, s, Nicaragua†	4 0 0..	—	4 1/2	5 5 1/2	—	Aug. 1866
12000 Cobre Copper Company, c, Cuba†	43 10 0..	—	43	10 0..	—	May 1867
10000 Copiapo Mining Company, Chile†	16 10 0..	—	16 10 0..	—	—	—
10000 Copiapo Smelting, Chile	10 0 0..	—	—	—	—	April, 1866
30000 Copper Miners' Co. of South Australia† [150 £ 100 pd., 150 £ 70 pd.]	—	—	—	—	—	—
25000 East Rio, g, Brazil†	2 15 0..	—	—	—	—	Nov. 1866
15000 El Chico Silver Mining and Reduction Company	5 0 0..	—	—	—	—	June, 1866
8000 English and Canadian Mining Company	5 0 0..	—	—	—	—	Feb. 1866